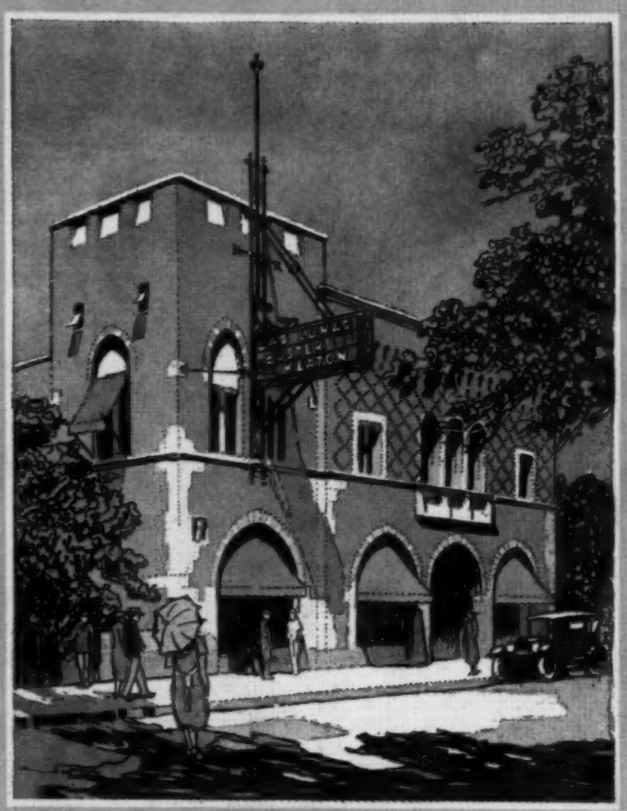
JUL 7 1925

THE ARCHITECTURAL FORUM



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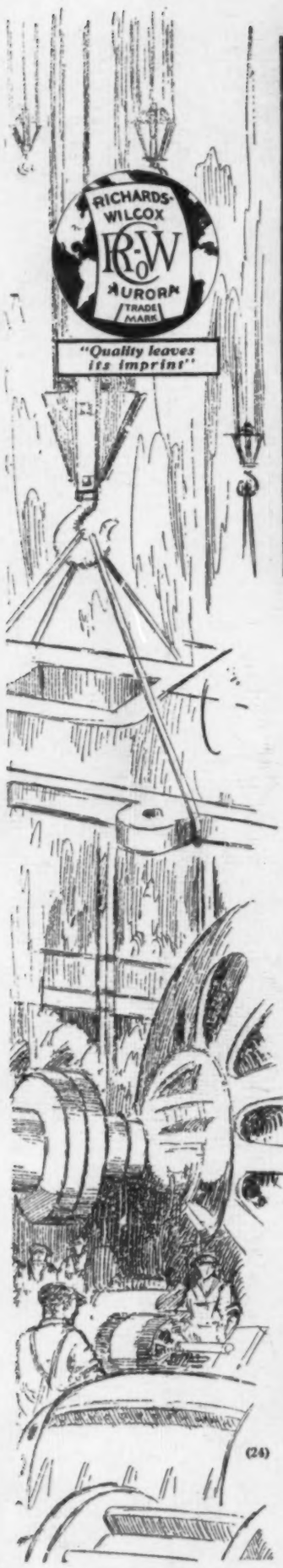

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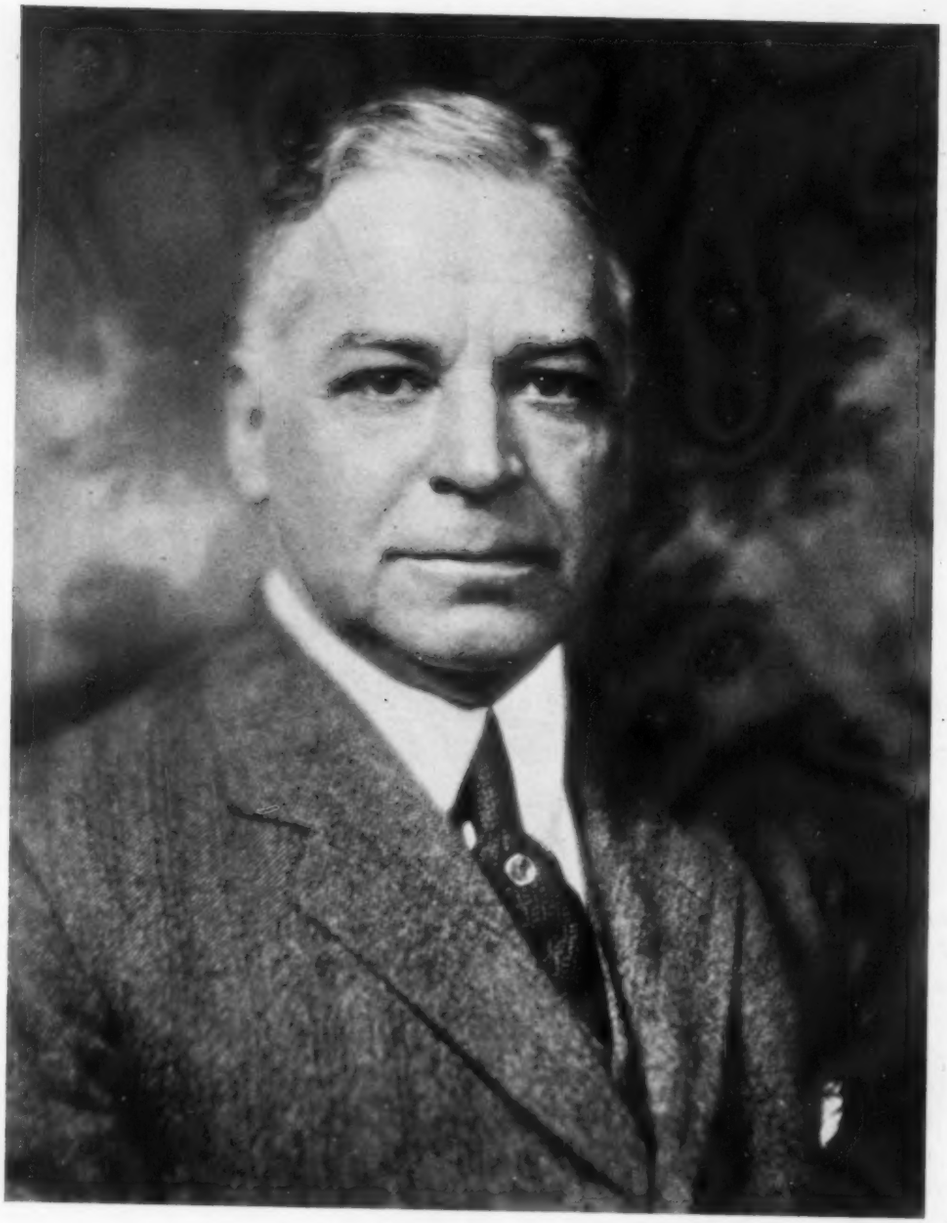


DONN · BARBER

1871-1925

Donn Barber

1871-1925

TWO months ago the vigorous personality of Donn Barber suggested no thought of the numbing shock that was to come to his family and friends in his death, at the height of the development of his marked abilities. A brief but fatal illness came upon him, and it was characteristic of him that, refusing to recognize the peril he was in, he maintained a cheerful, joyous courage in all his last contacts, and at the end passed away in his sleep.

He was a man of unusually clear vision, eager and intense in all things, and an indefatigable worker. Of an affectionate, generous and democratic nature, with inherited talent for music and art which he developed by intelligent application, it is no wonder that his going has left an emptiness in the hearts of his friends that cannot be filled. He was thoroughly informed and had a genius for news. Whenever anything had to be verified, or the details of some old occurrence brought to light, Barber was always appealed to. This characteristic, with his spontaneous wit and ease in conversation, made him a delightful and entertaining companion. Happy by nature, delighting in his family, his friends, and his work, he was proud of it all, and shared his happiness with his neighbor. He faced life with confidence, met difficulties and sorrow without flinching, and was always ready to direct his talents into channels that benefited others, particularly the younger men, in whose education he took an important part through the "Atelier Donn Barber," which he established and maintained for many years. He was preëminently able in that most important and difficult phase of the work of an architect,—the study and production of a simple, logical plan. His talent in design was not static,—he went on from year to year, and those who knew and loved him take comfort in the knowledge that he contributed in a marked degree to the progress of the art he loved, and to the scholarly advance which American architecture has made in recent years. His name will be held in affectionate regard, and his influence will live on.

BENJAMIN W. MORRIS

DONN BARBER was born in Washington, October 19, 1871, the son of Charles G. and Georgiana (Williams) Barber. He was graduated from Yale University with the degree of Ph. B., in 1893; following this he took a special course for one year (1893-94) at the School of Architecture, Columbia College, after which he spent four years in Paris at the Ecole des Beaux Arts, from which he was graduated in 1898. In November of the following year he was married, in Louisville, to Miss Elsie Yandell, who, together with four children, survives him.

Practical training, after graduation from the Beaux Arts, he received in the offices of Lord & Hewlett, Cass Gilbert and Carrere & Hastings, establishing his own practice of architecture in 1900. Among the many splendid buildings designed by him are the New York Cotton Exchange, the National Park Bank, Lotus Club, Institute of Musical Art, National Headquarters and Central Branch Headquarters, Y. W. C. A., Connecticut State Library, and buildings for the Travelers' Insurance Company at Hartford, while shortly before his death the finishing touches were put to the plans of what he regarded as his crowning achievement, the Broadway Temple, New York, the construction of which is about to be begun.

Mr. Barber gave in generous, unstinted measure his influence and his efforts to furthering any undertaking which tended to advance the material interests of his profession. No one was more active than he in the organization and carrying to a successful presentation of the recently held Exposition of Architecture and Allied Arts, and it is one of the ironies of fate that he was unable to personally participate in the gatherings which meant so much to its success. He was formerly President of the Society of Beaux Arts Architects, and was President of the Architectural League of New York, at the time of his death, which occurred at his home, 125 East Seventy-fourth Street, New York, in the early morning of Friday, May 29. Following funeral services in New York on Monday, June 1, he was buried in the Sleepy Hollow Cemetery at Tarrytown.

ROOSEVELT THEATER, CHICAGO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

From a Crayon Drawing by Hugh Ferriss.

The Architectural Forum

360.

The
ARCHITECTURAL
FORUM

VOLUME XLII JUNE 1925 NUMBER 6

What the Public Wants in the Picture Theater

By SAMUEL L. ROTHAFEL ("Roxy")

Proprietor, Capitol Theater, New York

PEOPLE want primarily to feel that it is *their* theater. Their first contact with the house is by way of the cashier, the doorman, the house manager and the ushers who conduct them to their seats. One can readily realize, therefore, how important it is that this first impression convey all that the management desires in the way of courtesy and service. To this end the house staff should be under strict training, of almost a military character. The members should be drilled regularly, so that their movements and demeanor may be smart, snappy and precise. They should be taught the importance of personal cleanliness, so that their uniforms and general appearance at all times are immaculate. They should be given "institutional" talks which instill in them a sincere and wholesome interest in their work and a pride in the institution which cannot help but be reflected in the attitude that "the patron is always right."

One cannot over-emphasize the importance of "atmosphere." The Capitol Theater is fortunate in having an inspiring and beautiful interior, one which, on being entered, immediately fills patrons with interest and expectation. Fresh flowers are placed daily in the lobbies and promenades of the theater, on which one item alone are spent several thousand dollars a year. Superficially, this may seem like extravagance, but it is one of the ways in which we have helped to establish the atmosphere we desire to have in the theater. By creating this atmosphere, and making the patron feel that he is our special guest and that nothing for his comfort and convenience has been overlooked, we have won the first battle; after this everything is much easier.

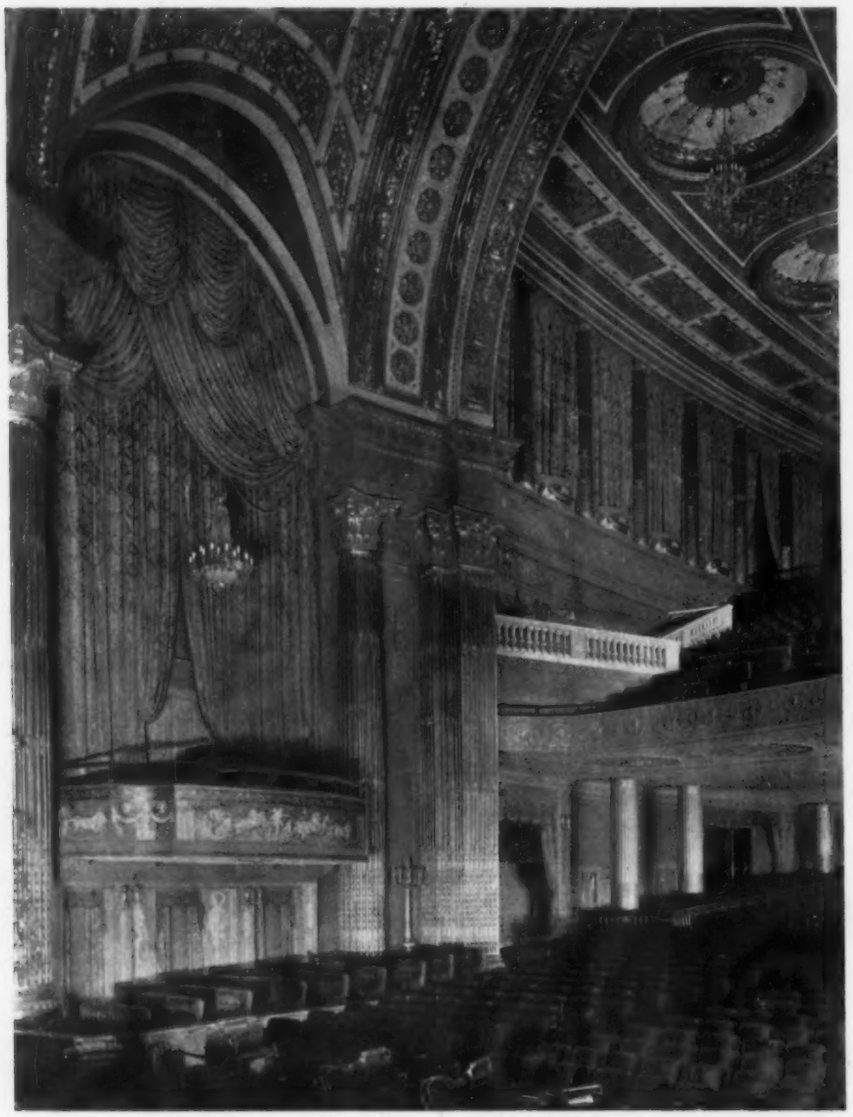
I have said that the patron likes to feel that this is *his* theater. To that end we are guided in our advertising and showmanship by principles of sincerity and good faith. A policy of dignity, honesty and good taste, consistently adhered to, cannot help but reap its harvest in securing us the good will of our patrons. We are honest and sincere with them, and in return we shall have their confidence.

Behind the theater there should be an ideal, a living idea. Behind the programs there should likewise be an animate idea. It is that intangible something, that moving spirit, that makes the theater a living factor of local activities and a community center. One of the most amazing and awe-inspiring things I have ever felt is to be in the Capitol on a Sunday evening, when the house is crowded to the doors. Every seat in the orchestra and balcony is filled, with rows and rows of patient "standees" in the rear. And these thousands of people will listen, breathless, eager-eyed, and with all their senses focused on the stage, while the big orchestra of 75 fills the house with the strains of an overture of Wagner. This is their program, conceived especially for them, somewhere close to the heart and yet not far from the mind. They love it and are proud of it and throng the house to hear it.

I should consider the success of any theater incomplete without the *esprit de corps* of the organization. There are over 350 persons connected with the active operation of the Capitol. The list includes people performing a wide variety of duties: members of the staff, heads of departments, artists, musicians, projectionists, electricians, property men, carpenters, painters, wardrobe women, engineers, managers, attendants, ushers, pages, cashiers, clerks, porters, cleaners and watchmen, while every individual from the highest to the lowest is inspired by the spirit of teamwork—the subordinating of personal prominence to the efficiency and welfare of the whole organization and to its upbuilding.

We should never have been able to create the effects we do, to conduct the experiments in projection, lighting and staging which bring us a step higher in the development of motion picture entertainment, if it were not for the sympathy, enthusiasm and devotion of each member of the organization. I think I may say with pardonable pride that they have never stopped at anything,—that no idea which ever emanated from the combined imaginations of the staff has ever stumped the people backstage who were presently called upon to carry it out.

Each week in the year has a psychology of its own; each week must be approached and treated in a different manner, taking into consideration the



Detail, The Capitol Theater, New York
Thomas W. Lamb, Architect

season of the year, the entertainment being offered, and any particular significance attached to it. But certain general principles are applicable at all times. First of all, the public likes to permit its imagination to have full play. Its intelligence must not be under-rated. It must be given credit for as much discrimination as that of the exhibitor who offers his entertainment to the public. One must avoid striking false notes, and should strive to get real human-ness into the programs,—and it can be done.

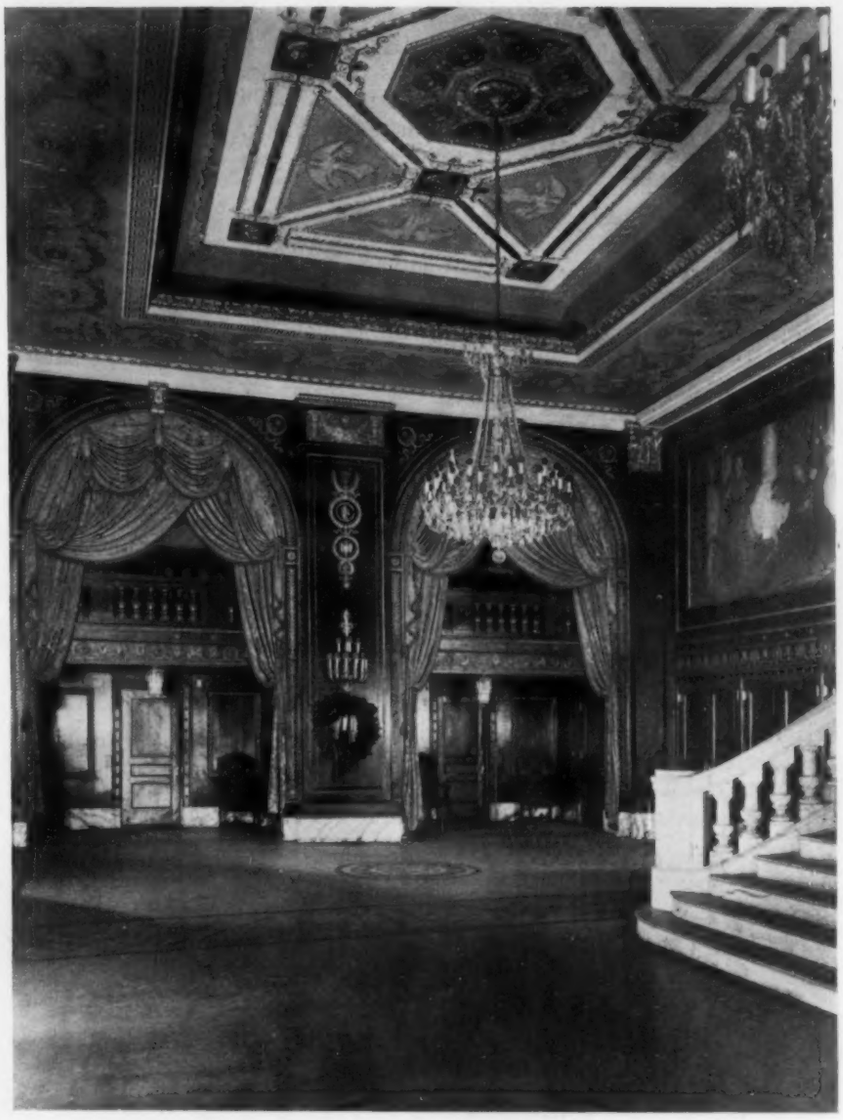
I have great faith in the intelligence and the æsthetic appreciation of American audiences. I believe that they are ready for the best that can be offered them in motion pictures and music. When we undertook to have the Capitol Grand Orchestra play Richard Strauss' symphonic poem *Ein Heldenleben*, several years ago, we embarked on a daring adventure in the field of popular entertainment. The popularity and appeal of the best symphonic music had already been proved by the thousands of regular patrons who come to the Capitol to hear the orchestra and its musical offerings. Liszt, Tschaikowsky, Beethoven, Wagner — work of each of these composers had found a permanent place in our programs. Even Strauss' *Till Eulenspiegel*, played in this theater one spring, had been sympathetically received. But Strauss' *Heldenleben* presented an altogether different problem. Here is a magnificent example of iconoclastic modern music, a work which has provoked as much discussion as a Wagner opera; here is a demonstration of Strauss' unparalleled mastery of orchestral devices and the highest development of thematic composition, tonal coloring and dramatic beauty. The overwhelming success of its reception by our audiences was the most gratifying and encouraging element in the performance of this composition, and it justified our belief that our audiences are the finest in the world and capable of rising to the greatest heights of æsthetic appreciation which can be inspired.

We do not place ourselves on a lofty pedestal and from the exalted altitude of our position decide that the public wants this, that or the other thing. We make no attempt to "please the public," a phrase which is easily bandied about, for the simple reason that we do not presume to know what it is the public really does want. But we do know one thing. We try to keep faith with our public. We try to create a program based on the fundamentals of good taste, honesty and sincerity, and within the bounds of average intelligence. We have a critical standard of our own; we try, first of all, to please ourselves, and we are our own severest critics. The old-time showman, wearing a high silk hat and with a red carnation in his buttonhole, who placed his hand on his chest and shouted, "Give the public what it wants!" belongs to a long forgotten age.

I agree with the contention that "the picture is the thing." Of course the picture is important, and we could not do without it; but what we have tried to do is to build around it an atmospheric program that is colorful, entertaining and interesting. This

type of program, with its ballets, musical presentations, stage settings and lighting effects, calculated to form a series of pictures sometimes contrasting and sometimes gracefully merging into one another, was originated by ourselves. It seems to please our patrons, and so we have no complaint to make.

Now as to the music. We have never advocated in this type of entertainment the presentation of operatic arias sung in foreign languages, which few enjoy and even fewer understand. We have tried to eliminate hokum and insincerities from our programs. By the same token we have refrained from presenting jazz numbers, which in themselves might be popular and successful, but which reviewed in the program in its entirety would be a jarring note in the harmonious effect of the whole. The music, in my opinion, should do more than merely accompany the picture. Its function is to *interpret* the action and character of the picture, to lift it up and carry it over the flat dimensions of the screen. It is interpretative music that supplies the body and foundation of the presentation. The music should not obtrude itself upon the patron. If it is interpretative in the full meaning of the word, it will become so integral a part of the picture that the lines of confluence will be hardly distinguishable, and such music we try to present.



Grand Foyer, Capitol Theater, New York
Thomas W. Lamb, Architect

The lighting, too, is most important. There is no miracle about it, no magic, although the gorgeous ensembles of color simulate the effect created by a magician's wand. Neither is it an indiscriminate or haphazard throwing together of colors, since behind each lighting effect there is an idea, consistently conceived and executed. Elemental passions and emotions have their counterparts in the primary colors—red, blue and green. They are the colors which best express the spirit of the Latin countries —Italy and Spain—and they are the colors which we use as the principal motifs in lighting such orchestral numbers as *Capriccio Italien* and *Capriccio Espagnol*. Russian music also deals with the elemental nature of the people. Tschaikowsky's music has its roots deep in the national spirit of the Russian people; sorrow, suffering, privation, injustice are expressed by the use of primary colors. Pastels, on the other hand, represent the abstraction of the idealistic. In lighting an overture such as that of *Mignon*, we keep in mind the nature of the character portrayed, and the lighting should consistently describe that character. In lighting *La Boheme*, again, the important thing is the theme of the music —the gay, carefree atmosphere interpreted in terms of color, for both color and music aid interpretation.

It is my belief that the motion picture theater of tomorrow will aspire in its artistic endeavors to reach the standard of grand opera. We shall see theaters equipped and constructed along different lines, generally on one floor, and with stages of much greater proportions than those we now have. The decorative effects will be of a neutral character and free from ornamental properties or design. They will be created by light, thereby creating at-

mosphere appropriate for each individual production. Vast progress will be made in many ways.

Development of the present systems of lighting, I am convinced, will be the greatest stride made during the next few years. In this respect, too, the theater of tomorrow will be different. Projection of light from various parts of the house upon highly sensitized screens will be utilized to create effects. Color will play a most important part, and the control will be in the hands of a single operator, stationed somewhere in the orchestra, who will play upon a keyboard similar to that of the piano. By this means shades of color and intensities of light will be varied to suit the mood of the action. By combinations of the primary colors, pictures shown upon the screen will be suitably presented, while the music from a symphony orchestra, synchronizing with the acting, will aid in making a single impression upon the spectator.

Acoustics no longer present a problem, since the amplification system, with which we are now experimenting, will carry the voice and will send it perfectly almost any distance within reason, and certainly a distance greater than could be found in any theater. We have now installed a system in the Capitol Theater which permits the director to sit in a chair and speak in a natural tone of voice, even in a whisper, so that he can be heard in any corner of the theater—the booth, more than 200 feet away from him, and in any corner of the stage—by the conductor and all those concerned.

The orchestras of tomorrow will be quite different from those of today. They will be smaller for theater work, with many new instruments; but each instrument will be so amplified that the orchestra will probably exceed in "color" and volume of tone an orchestra many times its size today.

For projection we have now developed the high intensity arc, a special filter, and a newly-designed shutter. Tomorrow such apparatus will be so controlled automatically that it will require the most highly trained operators to direct the showing of synchronized, sensitized pictures. Today motion pictures do not form a part of art; they are the result of the fusion of varied abilities. But shown in the future with light, color, music, even scent (we have attempted that, too!), pictures will afford the highest expression of art that we shall know. I hope that I shall live to see that day!

We are working slowly; we are dreaming wonderful things; we are visualizing marvelous projects. We shall develop many auxiliary types of motion pictures—educational and perhaps industrial—in connection with radio and with medical science. The work of the past is but the stepping-stone to something much finer and better in the future, and the development in the picture industry thus far is but an indication of what is to come.

Balcony Stairs and Entrance Foyer, Capitol Theater, New York
Thomas W. Lamb, Architect

Present Tendencies in the Design of Theater Facades

By KENNETH FRANZHEIM, *Architect, New York*

WITHIN the past few years more and more attention has been given to the exterior design of theater buildings in America. This improvement is much more than a reflection of the general improvement of American taste in matters of art during the past decade; it is also the result of a close study of human psychology by theater owners. Today the play is not solely "the thing." The "show" is now a much broader problem; its importance is expressed throughout every corner of the building, and the facade is coming in for a larger measure of thought and study at the architect's hands.

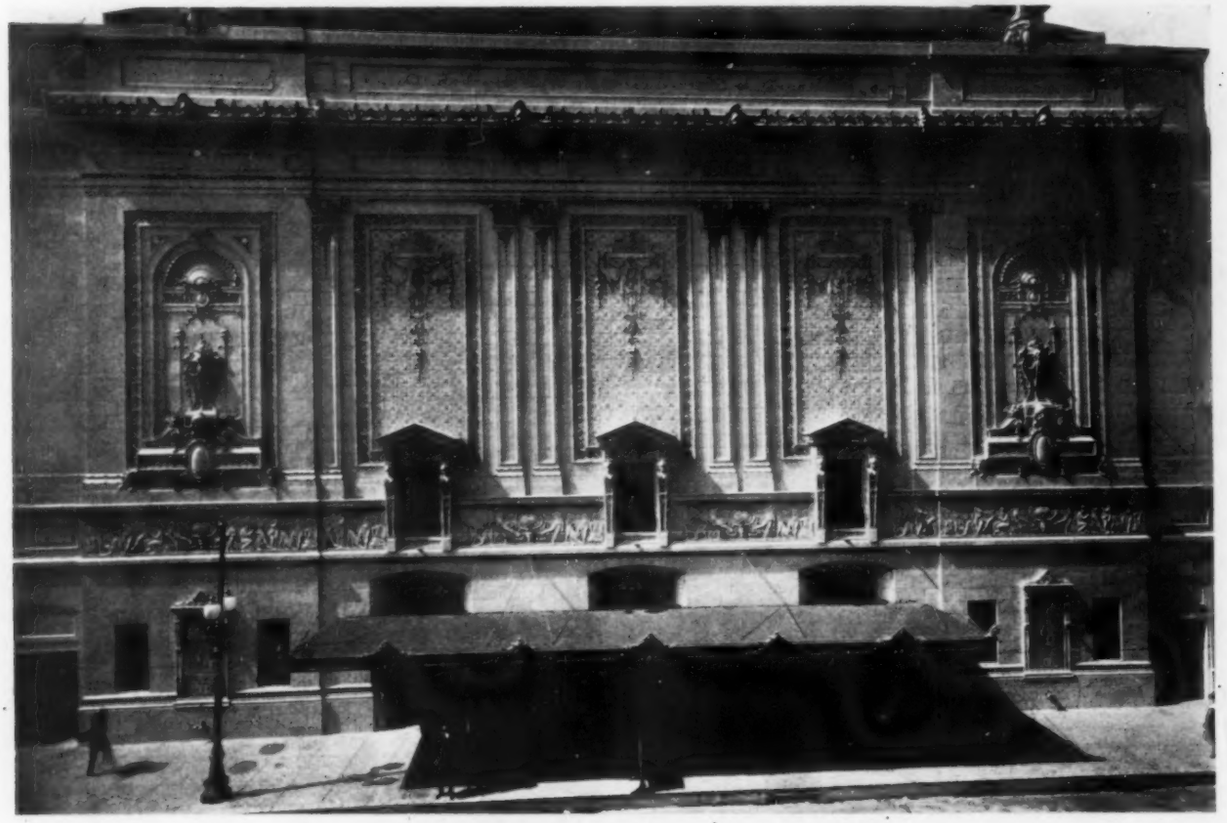
Nineteenth century opera houses and theaters stand today as silent reminders of the decadence of American taste in that period. With the exception of the Madison Square Garden, with its splendid theater, now being demolished, there was nothing created before 1900 that is worthy of consideration as a work of art. Occasionally considerable sums of money were squandered on garish interiors, but little attention was ever paid to the houses' outward beauty.

As the public today is demanding alluring facades and attractive appointments, even to the curb, architects are hastening to respond to this demand. However, up to the present time, but few buildings designed as motion picture theaters have been built worthy to be regarded as outstanding examples of architecture. There have been some semi-public motion picture theaters built, such as the Eastman Theater in Rochester, that are thoroughly successful, and there are a number of public picture houses that warrant considerable applause; but a real achievement in the commercial motion picture field is still lacking. The Grauman Theater in Hollywood is a step forward in this direction, although it is difficult to reconcile a gaiety of architectural expression with the style of ancient Greece. It is at once too monumental and too austerely solemn. The Rivoli in New York and the Roosevelt in Chicago are worthy of some attention, but are lacking in many refinements. The modern commercial problem is to beguile the public with pleasurable expectation by creating facades that are at once exalting and inviting, yet free from garishness and cheap ostentation. In individual theater buildings the opportunity is of course much greater than in theaters constructed in connection with large office buildings. In practically all of the latter, the problem of expressing the theater entrance properly has been completely ignored. Generally the effect has been to "punch in" two or three store fronts, hang up a marquee and electric sign, and then to request the public to imagine the rest.

Considerable progress has, however, been made in the handling of electric signs, marquees, poster boards, and other exterior accessories. Electric signs that were at one time designed by tinsmiths are now carefully studied as a part of the architectural composition, and are now anchored to the buildings with due consideration for architectural fitness. Marquees were for a long time appropriated as "brackets" for electric attraction signs, with the original purpose of sheltering the patrons often completely overlooked.

There are scores of prominent motion picture theaters now projected throughout the country, on which millions of dollars will be expended, and in which it is to be hoped the owners will see fit to encourage their architects in their desire and effort to create exteriors that comport suitably with the interiors.

Entrance Facade, Capitol Theater, St. Paul
C. W. and George L. Rapp, Architects

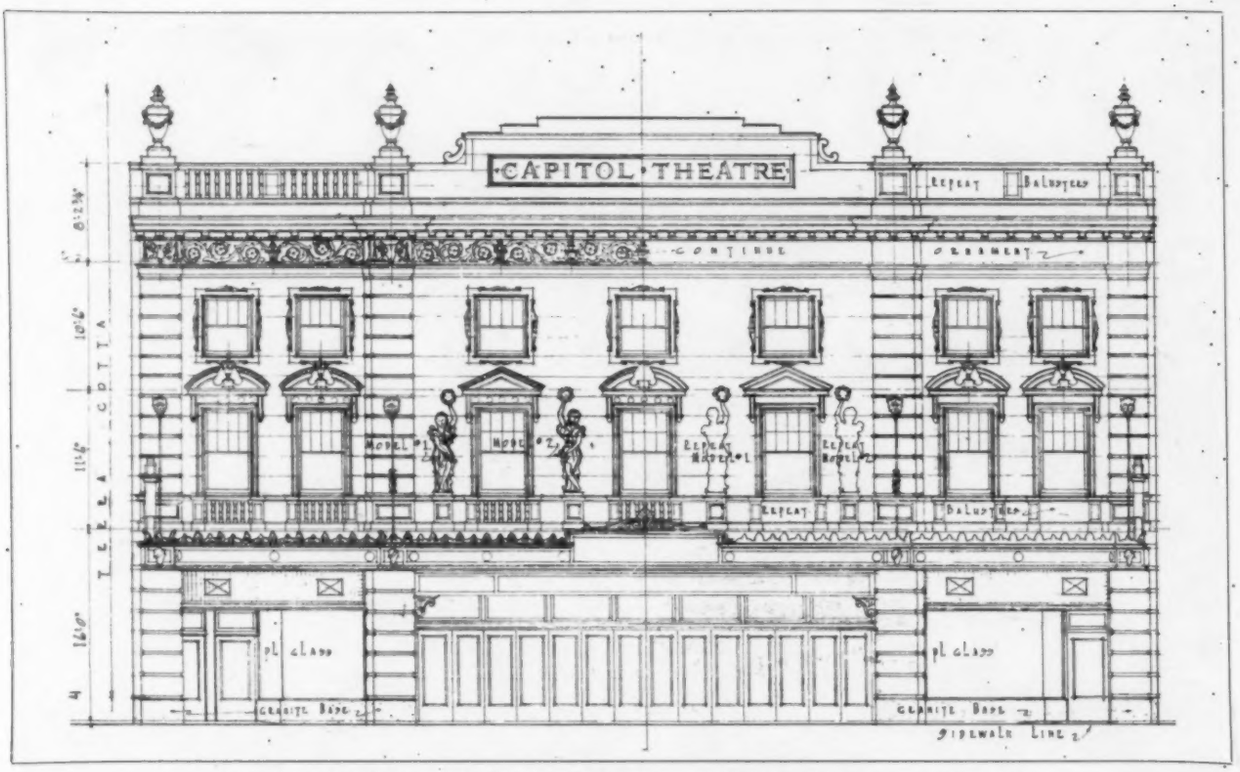


THE ORPHEUM THEATER, NEW ORLEANS
G. ALBERT LANSBURGH, ARCHITECT

THE EASTMAN THEATER, ROCHESTER
GORDON & KAELBER, ARCHITECTS; MCKIM, MEAD & WHITE, ASSOCIATE ARCHITECTS

THE WORLD THEATER, OMAHA
C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

GRAND FOYER OF THE EARLE THEATER, WASHINGTON
C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS



DETAIL DRAWING, FRONT ELEVATION, CAPITOL THEATER, CHICAGO
JOHN EBERSON, ARCHITECT

AUDITORIUM OF THE EARLE THEATER WASHINGTON
C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

Theater Entrances and Lobbies

By E. C. A. BULLOCK, *Office of C. W. and George L. Rapp, Architects, Chicago*

THE people of today's hurly-burly, commercialized world go to the theater to live an hour or two in the land of romance. So it is that the sophisticated playgoer must be taken up, on the architect's magic carpet, and set down suddenly in a celestial city of gorgeous stage settings, luxurious hangings and enchanting music. The atmosphere of a king's palace must prevail to stimulate the imagination of those who come within its doors. Yes, even before the patron enters the theater, the architect must stress first impressions through one of the most important architectural problems,—entrance and lobby appeal. The successful theater architect must master the psychology of the theatergoer. He must understand the patron's love of adventure and be able to excite his spirit of romance.

Giving first consideration to the entrance of a playhouse, an attractive theatrical appearance should be sought. An exterior design in which the curves of graceful arches predominate, but are not overdone, provides a pleasing contrast to the cold, straight and commercial lines of the usual surrounding buildings. The entrance motifs above and below the canopy, if there is one, should be made up of large and broad unobstructed openings, providing generous and alluring glimpses of the interior. With a flood of direct, indirect or outline lighting, to blaze the trail to the theater through many blocks, the entrance must be compelling, it must be inviting, and it must overshadow everything in its immediate neighborhood. It must actually be a magnet to draw the people on foot and in vehicles toward its doors.

Electric signs should be designed at the same time as the theater front, thus avoiding what has occurred in so many instances,—the obscuring entirely of a fine terra cotta front or stone exterior by huge and ugly electric signs. If it is necessary for the sake of advertising to cover the front of the building with a superabundance of signs to meet competition, the entrance should be so designed that it provides a simple background for the signs and not be a thing of beauty in itself to be covered and concealed. Sign makers, owners and architects should coöperate more closely to this end.

It is generally agreed that the box office should be placed at the center of the entrance, as near the street as is possible, and under no circumstances should it be necessary to pass through doors or by other obstructions before a ticket may be purchased.

This is the day of the unusual in theater design, and the new Paramount Theater on Times Square, New York, now under construction for the Famous Players-Lasky Corporation, contains several innovations which it is believed will arouse exceptional interest. The main entrance on Broadway will give into a grand lobby 200 feet long and 47 feet wide and rising five stories. Finished in imported marbles and bronze, the lobby will be similar in many ways to the foyer of the world famed Paris Opera House.

The Rialto Square at Joliet, Illinois, now under construction, has a fair example of the niche type of entrance made necessary by commercial and office

Lobby and Balcony Stairway, Capitol Theater, New York
Thomas W. Lamb, Architect

MEZZANINE PROMENADE

MEZZANINE SIDE AISLE PROMENADE

THE CHICAGO THEATER, CHICAGO
C. W. & GEORGE L. RAPP, ARCHITECTS

TICKET BOOTH AND LOBBY, WORLD THEATER, OMAHA
C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

ENTRANCE LOBBY, CAPITOL THEATER, ST. PAUL
C. W. & GEORGE L. RAPP, ARCHITECTS

building requirements. In place of the usual commodious lobby, the great recess or niche has been transformed into a veritable miniature and beautiful stage, which will possess immense drawing power. This is of course an unusual treatment.

Equally important to the success of the entrance is the design of the lobby. In reality the lobby must be a place of real interest, a place where the waiting throng may be transformed from the usual pushing, complaining mob into a throng of joyous and contented people. The walls and surfaces of the lobby should be as open in treatment as possible, permitting the theater-goer to get one vista after another, which will produce a decided spirit of adventure and a desire to gain admittance to the other parts of the house. In other words, the lobby should be so designed and so equipped that the fascination resulting from it will keep the patron's mind off the fact that he is waiting. It has a psychological importance.

The stairway should be genuinely enticing, a beckoning magnet and invitation to the upper levels. In the matter of lobby railings for segregating the patrons, it can be said that when the lobby is crowded they cannot be seen, and that when the lobby is not crowded they are not needed. The lobby should be spacious, providing comfortable standing room for the crowds on holidays, and also room for the audience inside to leave with ease.

Our better theaters have done much toward making the lobby appeal to the crowd. Fine paintings, impressive statuary, costly rugs and beautiful tapestries, used for decoration, have a marked effect on the waiting patron. A feature of both the Chicago and Tivoli Theaters in Chicago is the furniture, especially the rich gold grand pianos situated on the mezzanine promenades. The musicians in charge render light, airy selections which make the waiting minutes fly by quickly. Indeed the most striking feature of the Uptown Theater, Chicago, is the lobby, a block long, and of the highest architectural importance. It is a triumph of lobby architecture.

How well the architect can overcome the former aversion of patrons to the upper sections of a theater is exemplified in the case of the Chicago and Tivoli Theaters, whose orchestra floors and balconies are equally patronized day and evening. On entering either of these structures, patrons find themselves in a lofty, imposing and beautifully decorated lobby running across the front and leading into three promenade foyers which face it, one above another, which extend around the sides of the auditorium, giving the main or orchestra floor of the auditorium a foreign, U-shaped plan. The promenade foyers, in full view of the lobby, are wide and spacious, luxuriously furnished, with their walls hung with works of art, and are reached from the lobby by means of a series of wide, imposing and gradually ascending staircases which are flanked on both sides by huge columns. Upon entering the auditorium from the various upper foyers one comes out onto a spacious balcony, descending toward and nearly reaching the stage in a gradual low, sweeping curve, so that the patron often finds it difficult to realize that he is not on the main floor of the theater. A remarkable feature about the auditorium is that an effect of space has been produced in spite of the fact that its lobby covers a ground area of only 60 by 80 feet, and the auditorium of 160 by 170.

Entrance Lobby, New Orpheum Theater, New Orleans
G. Albert Lansburgh, Architect

A Description of the Capitol Theater, Chicago

JOHN EBERSON, Architect

MOST of us can remember "way back when" in the history of the motion picture industry. We recall, more or less vividly, the type of buildings that housed a form of entertainment the provision of which in a comparatively short time has grown to form the seventh largest of the country's industries. One cannot but marvel at the progress that has been made, both in the production of pictures and in the creation of modern edifices for their presentation for the public's benefit.

A striking fact, however, is that in the architectural treatment of places of public amusement we have built along lines of pronounced similarity. This tendency toward sameness does not apply only to theater construction; we see it in modern office buildings, hotels, and other structures now rising. Accepted lines, styles and treatments are followed. The proportions of the project and its embellishments generally constitute its outstanding claim to what distinction it may possess. It is not surprising, therefore, that a theater entirely different from the traditional should be viewed with speculative interest. The Capitol Theater, Chicago, represented a new thought and a new idea in motion picture theater design. In its embryo stage the idea elicited expression of the usual conflicting opinions. Those to whom the plan was unfolded were either wholehearted enthusiasts or decidedly discouraging in their views. However, after six months, the public (and in the picture industry the public is final authority) has definitely placed its stamp of approval on this new type of motion picture theater.

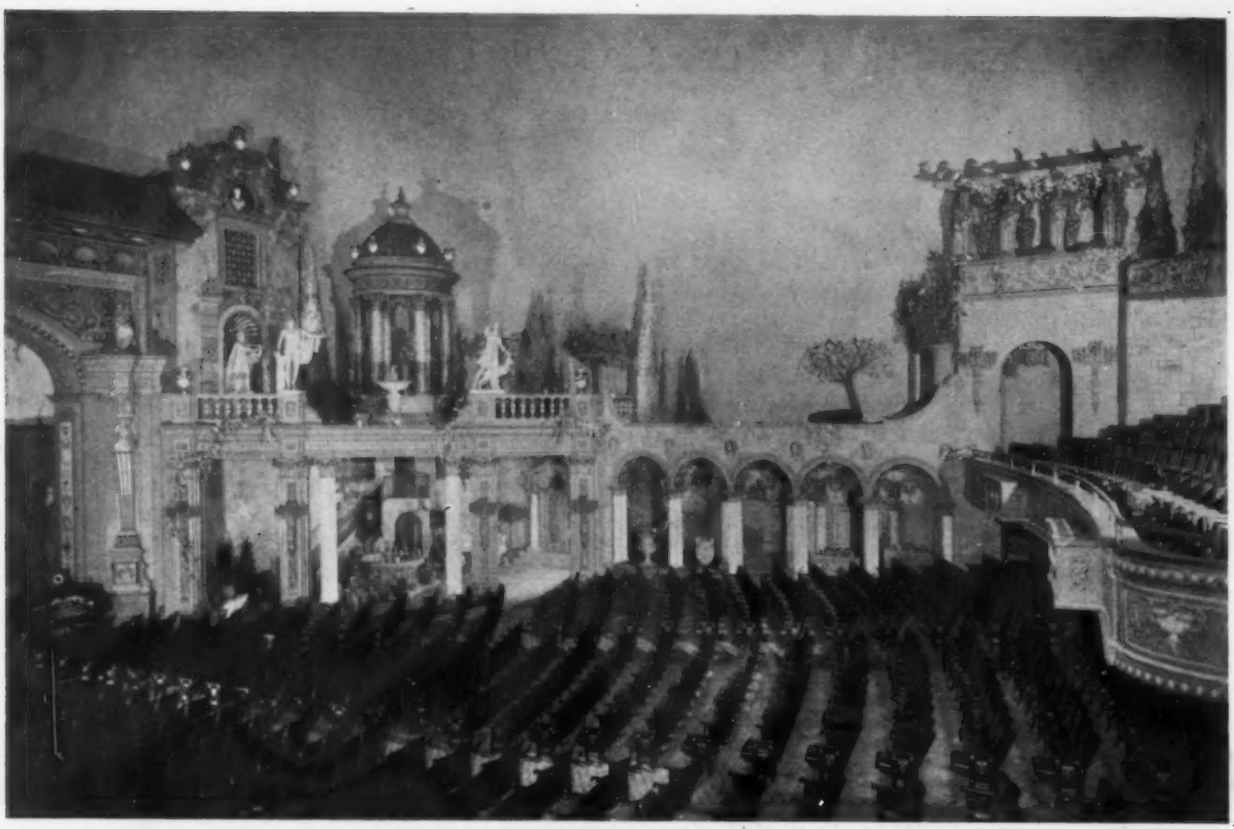
The development of the modern motion picture palace, generally referred to as the "house de luxe," has gone with a rapid commercialization of the "show business," and started with the two- and three-balconied "opera house," housing amateur performances, annual school graduation exercises and traveling road shows. Later, there came the ground-floor opera house and the more intimate and dignified small auditorium, built perhaps by the richest man in the town, and managed under franchises covering road shows, controlled by New York producers. There was also the "variety" or "vaudeville show," calling for more cheerful, more flashy, but still small buildings, devoted to amusements and giving daily performances. From this we very quickly came to the present-day cinema houses.

In the development of the motion picture theater, as we know it today, theaters have been built on parallel or very similar lines. We have had the French Baroque, the Colonial expressed in the Adam style, and a few scattering examples of Greek and Pompeian architecture serving as the standards, creating hundreds of playhouses of wearisome similarity. Stock patterned lines, groaning under the necessity of establishing individuality for the particular theater, have necessitated lavish expenditure to accentuate them. Yesterday's theater is old fashioned today, and today's theater has been virtually a replica of yesterday's except that it has been "dressed up" a little differently and more elaborately.

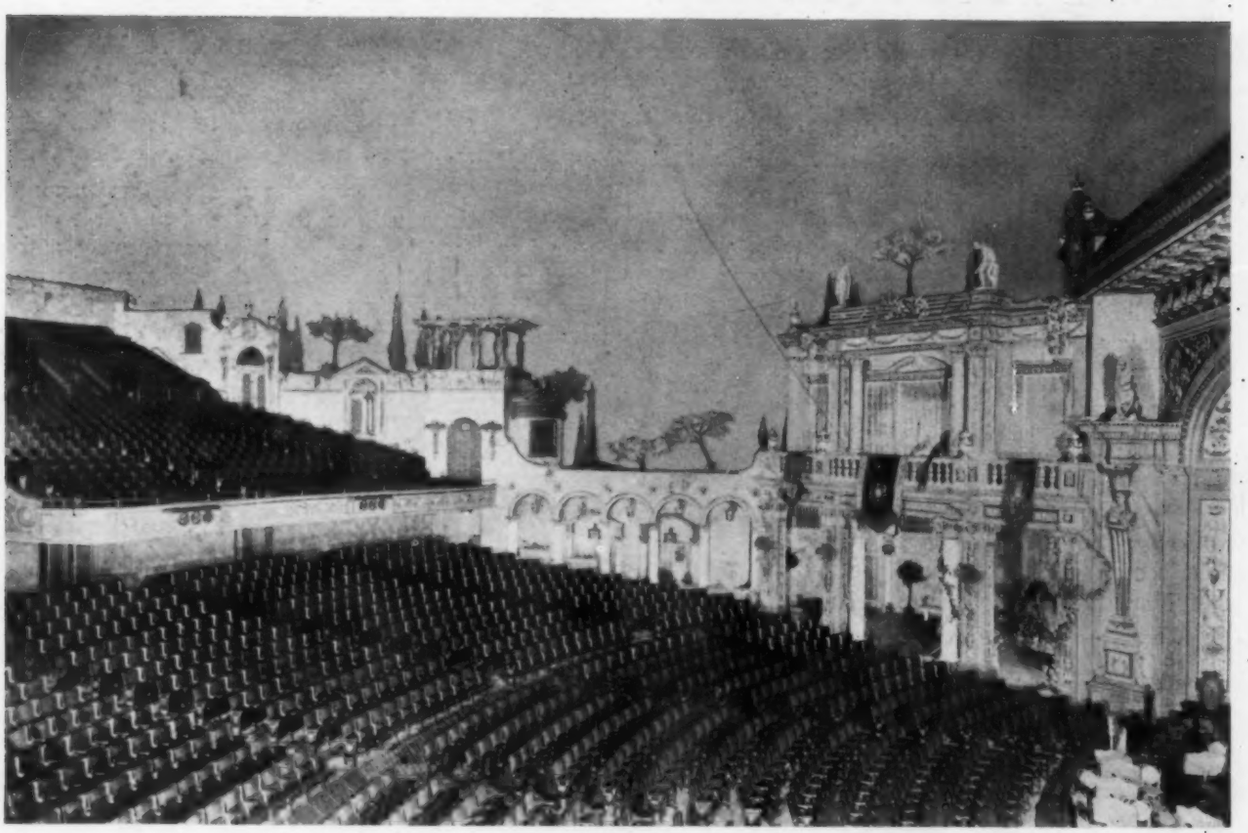
Since variety is the primary demand of an amusement-loving public, it is reasonable to assume that such variety will be appreciated in the place of entertainment as well as in the entertainment itself. The opening performance in one of our gorgeous picture palaces of gold, glitter, silk and satin, rich ornament and glaring decorations, is truly an inspiring sight; but it has been observed that the rapture of the audience is not particularly lasting. Surroundings soon become something akin to oppressive and embarrassing to the steady patron, and with the multitude of new theaters opening, differing from their predecessors only in point of decorative splendor and novel garnishment, it is apparent that the public mind has an idea of what may be expected.

With an appreciation of these facts in mind, the "atmospheric" type of theater suggested itself to the architect of the Capitol Theater. He visualized a magnificent amphitheater set in an Italian garden; in a Persian court; in a Spanish *patio*, any one of them canopied by a soft, moonlit sky. He borrowed from Classic, ancient and definitely established architecture the shape, form and order of house, garden and loggia with which to convert the theater auditorium into Nature's setting. It became necessary to study with utmost care the art of reproducing ancient buildings in form, texture and colors; it was more important to intelligently, appreciatively and artfully use paint, brush and electric light, tree ornament, furnishings, lights and shadows to produce a true atmosphere of the outdoors without cheapening the attempted illusion by overdone trickery. The auditorium thus created seemed to please. Despite its vastness and expanse it offered an atmosphere of intimacy,—a highly desirable feature in theaters,—and—most important of all—the atmosphere is always new, fresh and alive.

The Capitol Theater, Chicago, owned by the National Theaters Corporation, has a strictly Italian Renaissance exterior executed in glazed polychrome terra cotta for the main body and rich polychrome glass in ornamental enrichments, strictly representative of the modern revival and rebirth of antique and classic Roman architecture. Lobbies and foyers are adorned with modified replicas of ornament and designs, typical of the work found at S. Miniato, and done by Niccola Pisano. The entrance lobby has a faience tile floor, imported marble wainscoting and a richly ornamented ceiling with motifs taken from the Villa Cambiasco, and doorheads studied from



THE EFFECT OF AN OUTDOOR THEATER HAS BEEN SUCCESSFULLY ACHIEVED



THE AUDITORIUM APPEARS TO BE LOCATED IN AN ITALIAN GARDEN

THE CAPITOL THEATER, CHICAGO

JOHN EBERSON, ARCHITECT

MAIN FOYER FROM THE ENTRANCE

ENTRANCE FROM THE MAIN FOYER TO AN AISLE

THE CAPITOL THEATER, CHICAGO

JOHN EBERSON, ARCHITECT

one of the galleries of St. Peter's. The main lounge or grand staircase hall is four stories high, representing an Italian *cortile* with clear sky overhead and rich, palatial garden walls adorned with carved niches and statuary. The promenade back of the amphitheater is a replica of an old stuccoed cloister arcade, embellished with wrought iron gates, lanterns and iron-framed mirrors.

The proscenium arch of the Capitol was conceived as a triumphal arch, supported on columns and roofed with a Roman tile roof surrounded by a stone balustrade. The auditorium of the Capitol might briefly be described as representing an Italian garden under a Mediterranean sky, featuring a moonlight night. On the left side of the auditorium is an Italian palace facade. The right side of the auditorium represents a terraced roof garden with a small temple building. Surmounting the whole is a representation of a deep blue sky with moving clouds and twinkling stars, creating a completely out-of-door setting. The cupola of the temple was modeled after one of the many examples of architecture found in Milan, and in the Certosa of Pavia. The openings to the boxes, representing entrances through the palace garden walls, are Ponzello arches.

The pilaster ornament of the great columns, and the pilasters supporting the triumphal arch, are exact reproductions of carvings in a collection of reproduced pilasters in the Academy of Fine Arts in Verona. The door friezes of the main auditorium represent a double gallery and promenade, separated from the auditorium by rich archways carried on marble columns; thus extreme depth and distance are added to the huge interior, and in doing so every aisle and seating requirement ordained by the law has not only been met but the spaces usually allotted to aisles and cross aisles have almost been doubled in size. All of the theater interiors were decorated in rich polychrome. The installation of a very elaborate and specialized lighting system made it possible to add to the illusion and to the patrons' pleasure.

Modified caryatides, sculptured human female figures, are used as column supports of the pergola which conceals the two main ramps leading from the gallery to the balcony. The rustication of the stonework on the palace and garden walls is as found in Renaissance buildings in Florence. The entire decorative scheme of the exterior ornament on the building is carried out in fresco.

The stage setting carries the architectural vision from the auditorium onto the stage without any visible line of demarcation. The entire stage is designed as an Italian formal garden, with towering hedges, practical fountains, and containing a production stage which has a false proscenium resembling a Classic temple. The illusion created by the open air treatment of the auditorium and the intricate scenic and lighting effects of stage setting gives perfect harmony. An interesting detail of decoration is the use of rough-cast plaster, in an antique finish.

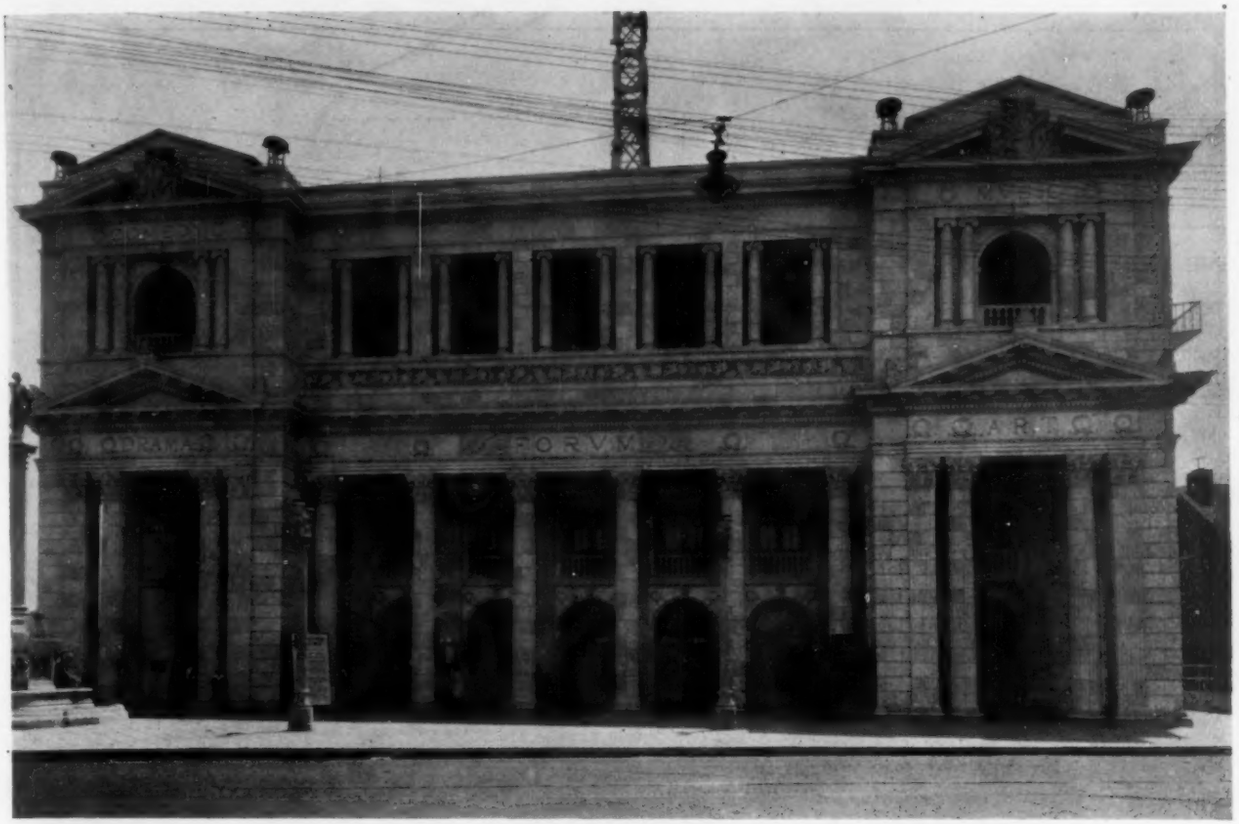
The Capitol Theater has a reinforced concrete foundation, steel skeleton frame, and reinforced concrete amphitheater. The commercial portion of this structure is of reinforced concrete. A very interesting feature is the use of the reinforced concrete proscenium girder spanning 65 feet, being 4 feet thick and 12 feet high. All stairs are of reinforced concrete, covered with marble. A complete, scientifically controlled heating and ventilating plant was installed, containing refrigerating apparatus, by the use of which fresh tempered and treated air is delivered to all portions of the building—warmed, washed air in winter and cooled, washed air in summer. The distribution of this air is accomplished by both side wall and floor openings, and an automatic, controlled system will assure patrons at all times of proper and agreeable atmospheric conditions.

The sub-stage floor of the Capitol contains a very large rehearsal room, a screening room, a musical director's library, toilet rooms for employes and all possible mechanical equipment, such as hydraulic curtain machine, vacuum cleaners, remote control board, organ blowers, ozone machines, electric air scenting machines and tanks, fire pumps, oil-burning heating equipment, transformer vault, refrigerating machine, motor generator, etc. A vestibule, 20 by 50 feet, contains a box office built of marble and cast bronze, permitting easy access to the main entrance and accommodating patrons at two windows. This vestibule and the 100-foot canopy which protects its entrance are illuminated with hundreds of incandescent lamps, giving the brilliance of daylight. Six sets of standard theater exit doors lead from this vestibule into the outer lobby, a room 50 by 60, having an Italian faience tile floor, walls covered with red damask, and a most interesting wood ceiling.

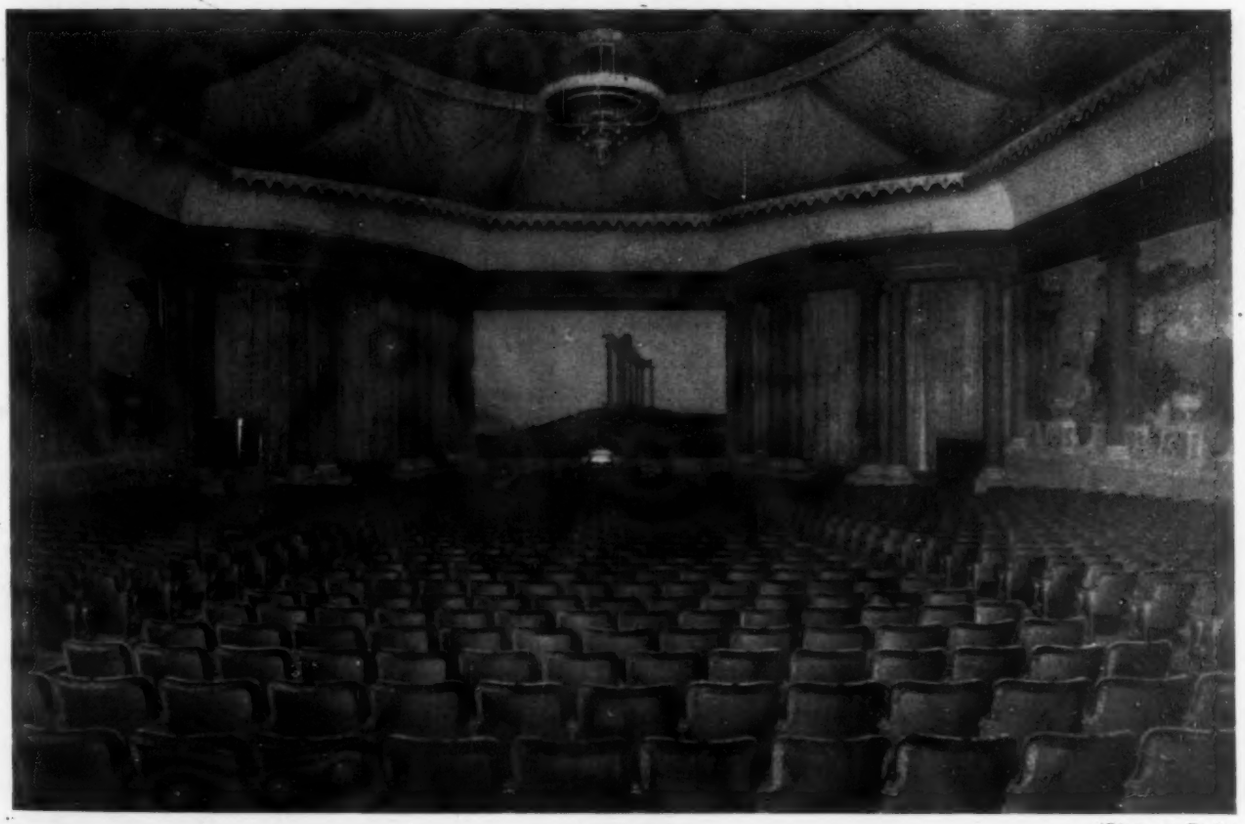
Festive torches cast interesting shadows on the loggia, which forms the portal to the circular foyer which is 36 feet wide and 115 feet long. The loggia contains a grand stairway executed in marble with hand wrought railings, surrounded by garden walls and covered by a domed sky ceiling illuminated in polychrome effect with Italian lantern ceiling fixtures. Another set of exit doors separates this outer lobby from the grand staircase, the imitation Italian limestone walls creating an unusual feeling of distance and grandeur. The circular foyer, which leads directly to another set of exit doors, represents an arcade with rough plastered walls, faience tile floor and an all-over pattern arched ceiling, decorated in richest polychrome and lighted with special fixtures.

Adjoining the foyer and separated by open hand-wrought iron gates is a large smoking room and men's retiring room with vaulted rough plaster ceiling and black and yellow tile wainscot.

In one of the interesting corners of the foyer is a gateway, leading out into what seems to be an open garden, a bit of interesting illusion created by the painters' and property makers' art; through a semi-open gate one perceives an Italian rose garden, adding depth and preparing the guests for the surprise which they are to experience when entering the house.



FRONT ELEVATION

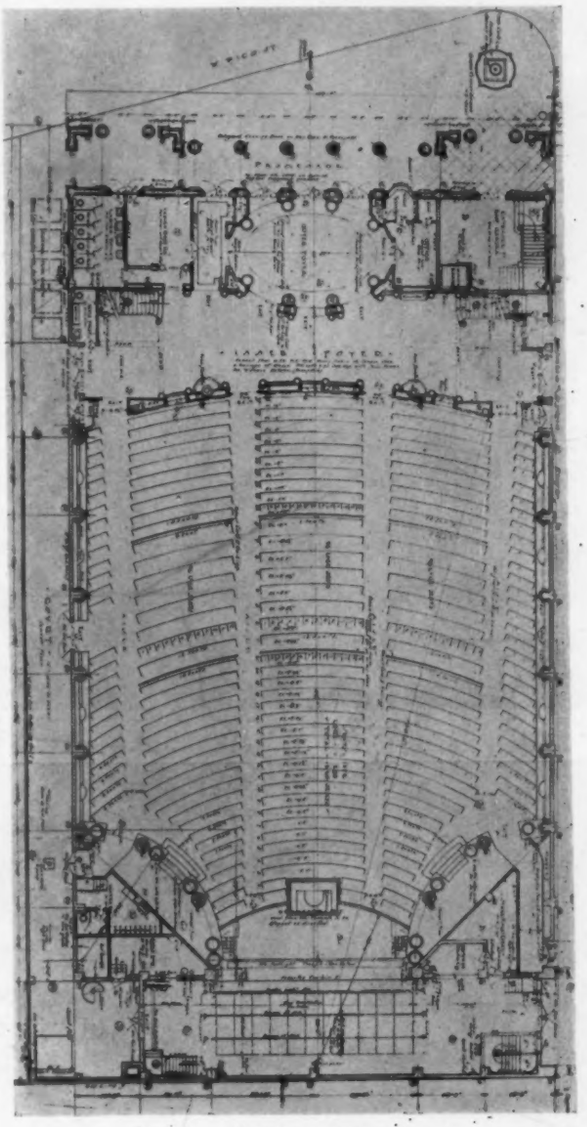


AUDITORIUM

(Plans on Back)

THE FORUM THEATER, LOS ANGELES.

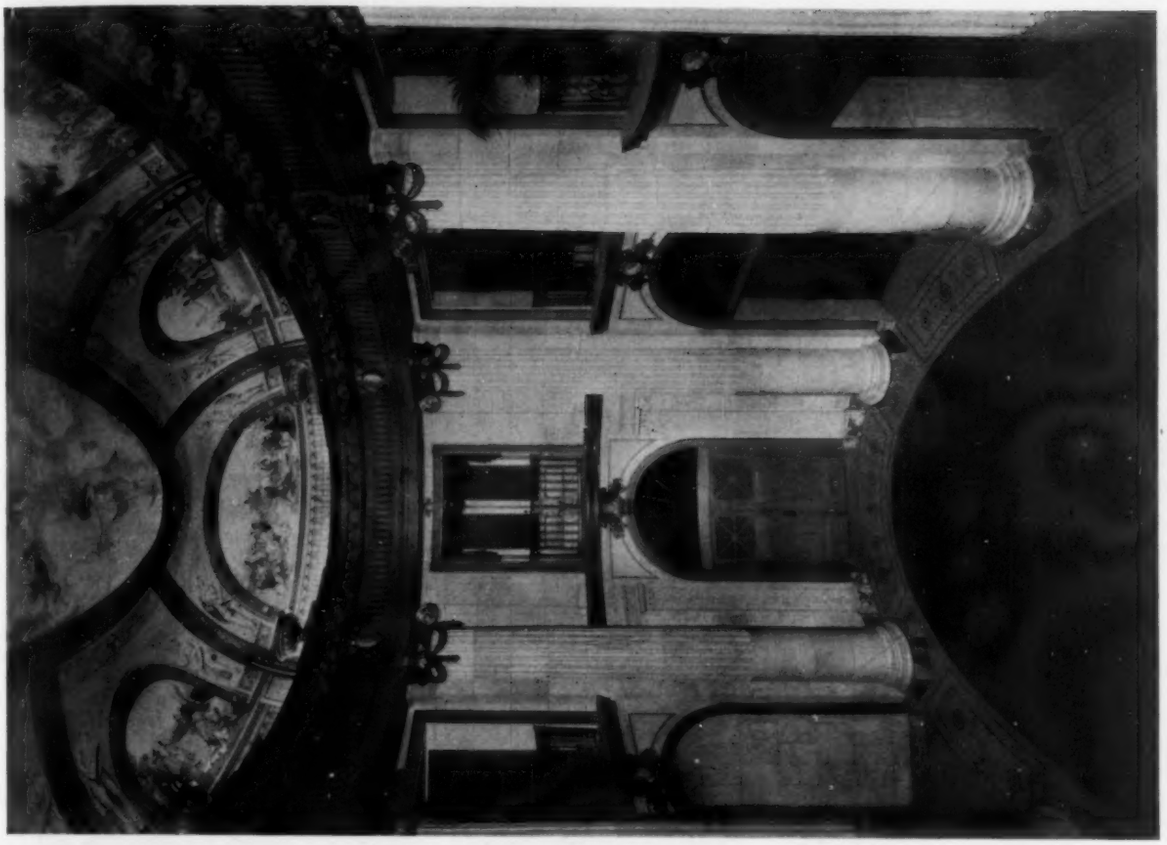
EDWARD J. BORGMEYER, ARCHITECT



MAIN FLOOR

PLANS, THE FORUM THEATER, LOS ANGELES

EDWARD J. BORGMEYER, ARCHITECT



MAIN ENTRANCE FOYER

FRONT COLONNADE

THE FORUM THEATER, LOS ANGELES
EDWARD J. BORGMEYER, ARCHITECT

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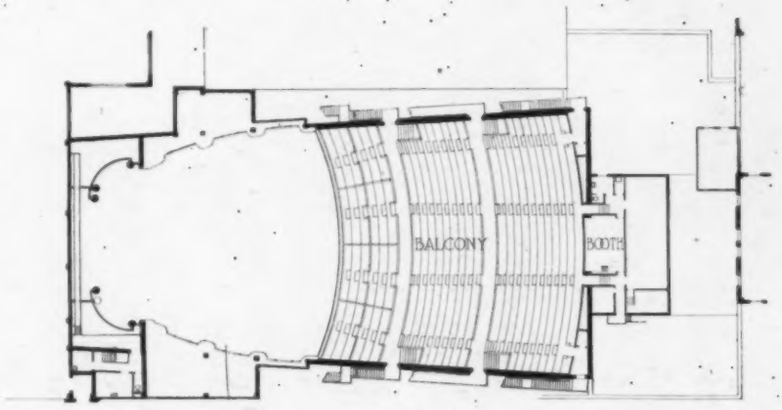
VIEW TOWARD THE STAGE

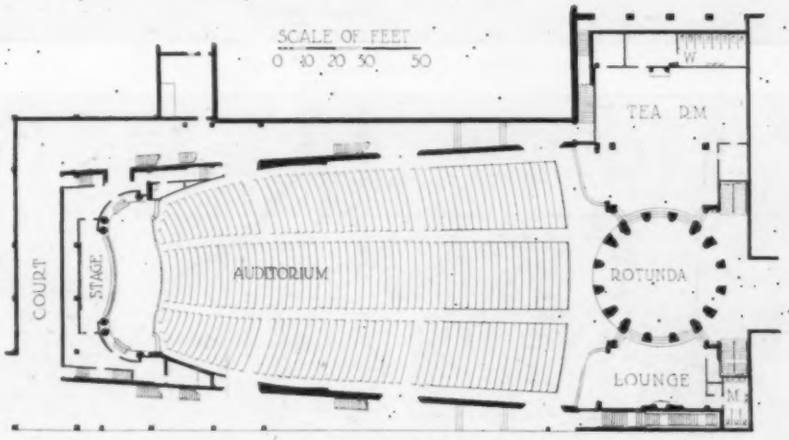
ENTRANCE ROTUNDA

THE ALLEN THEATER, CLEVELAND

C. HOWARD CRANE, ARCHITECT



BALCONY FLOOR



MAIN FLOOR

PLANS, THE ALLEN THEATER, CLEVELAND

C. HOWARD CRANE, ARCHITECT

EAST SIDE OF AUDITORIUM

AT THE LINE OF THE BALCONY

THE ALLEN THEATER, CLEVELAND

C. HOWARD CRANE, ARCHITECT

Architectural
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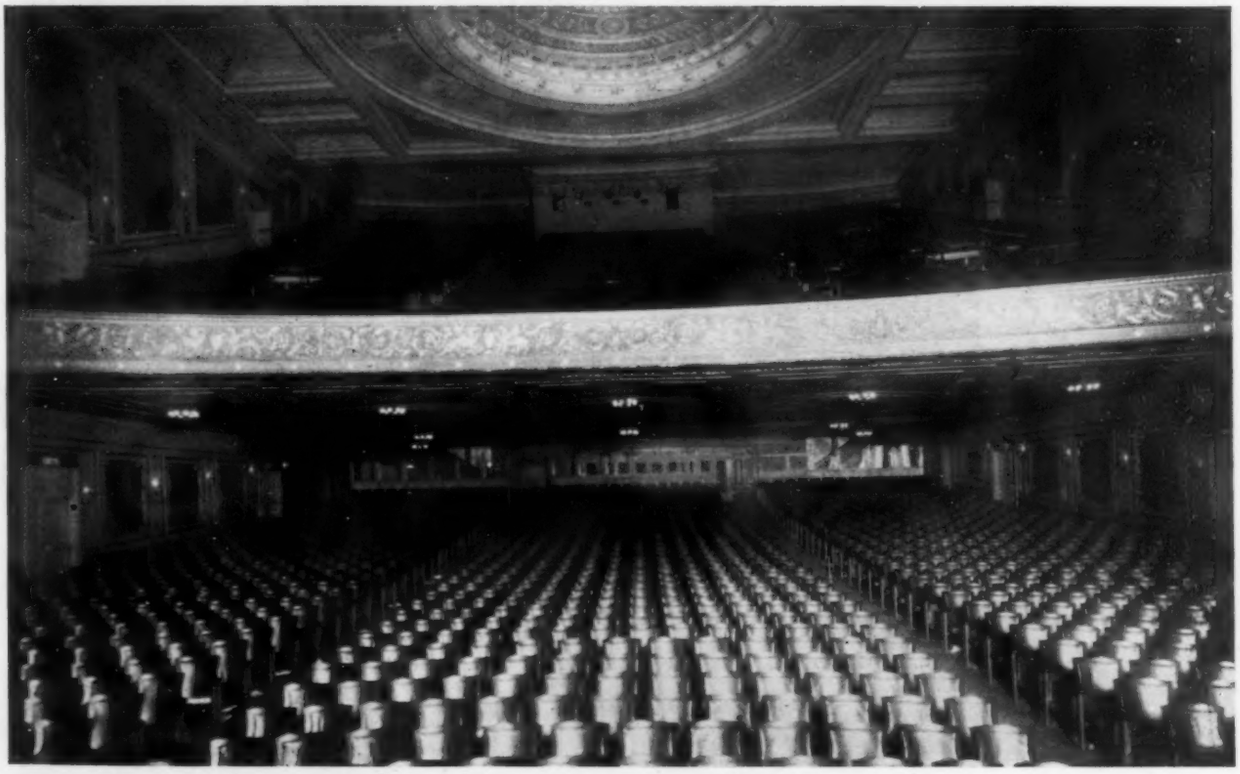
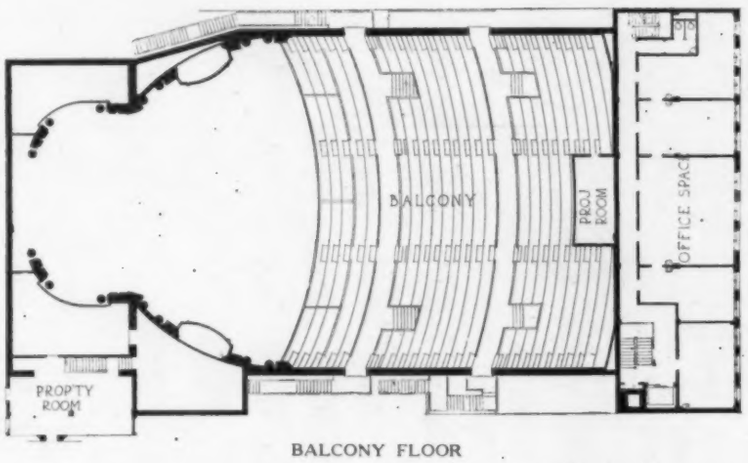
FRONT ELEVATION



AUDITORIUM LOOKING TOWARD BALCONY

THE JAMES THEATER, COLUMBUS, OHIO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS



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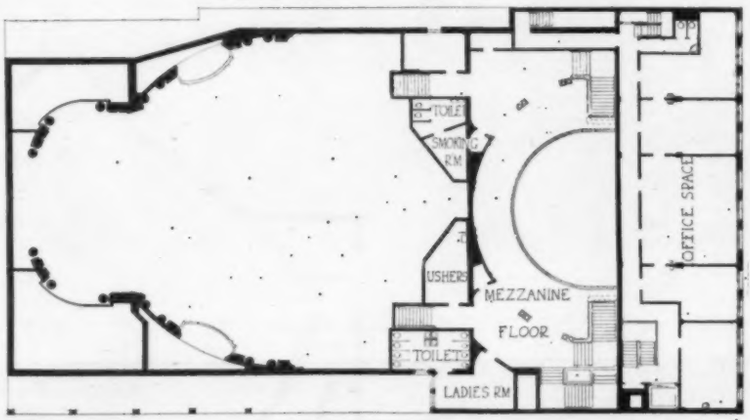
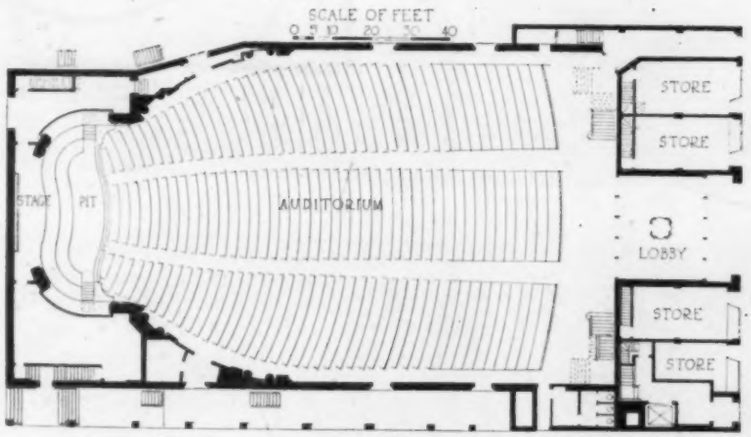


MEZZANINE FLOOR

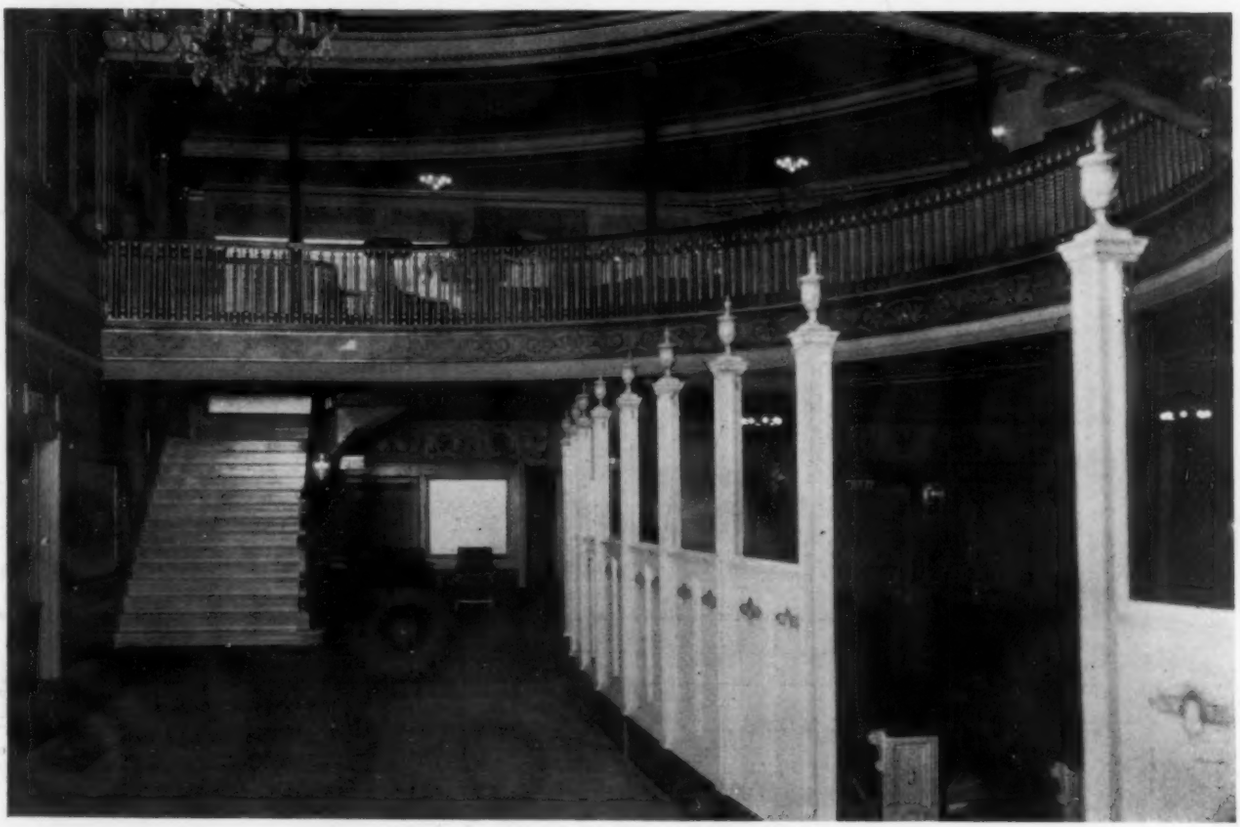


MAIN FLOOR

PLANS, THE JAMES THEATER, COLUMBUS, OHIO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

ORCHESTRA AND STAGE FROM THE BALCONY



BALCONY STAIRWAY AND ORCHESTRA SCREEN

THE JAMES THEATER, COLUMBUS, OHIO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

Architectural
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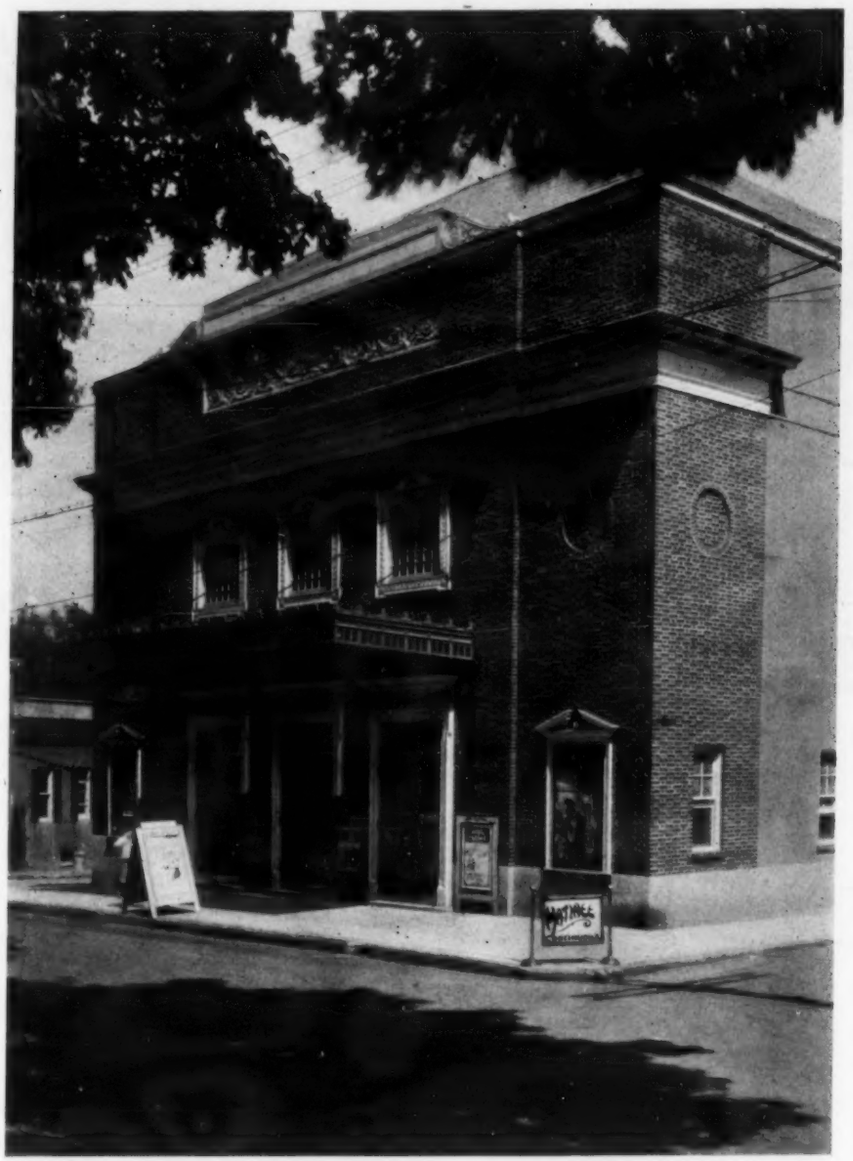
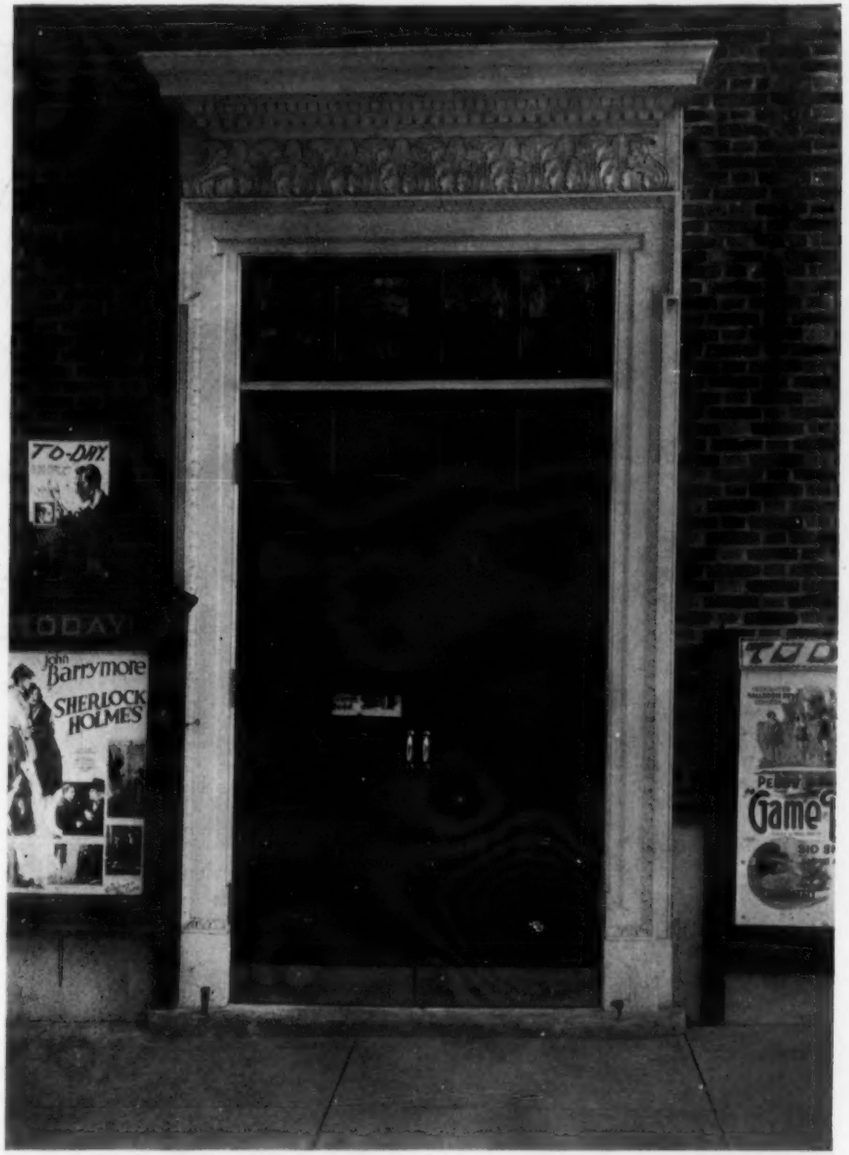
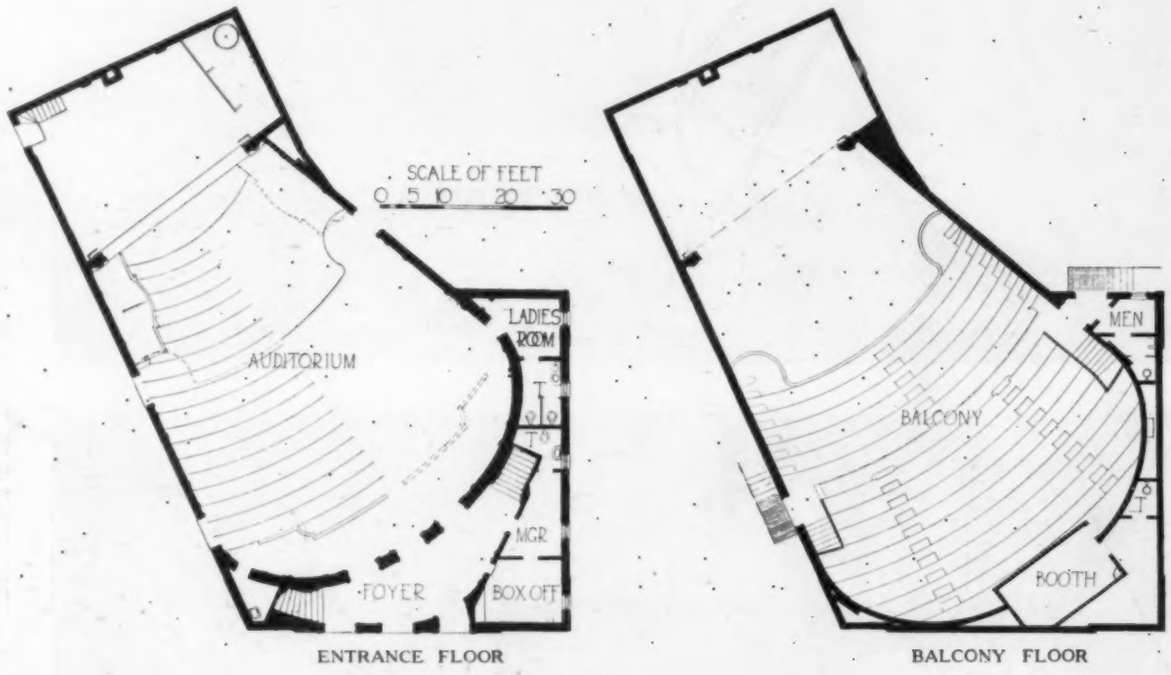


FRONT ELEVATION



DETAIL OF ENTRANCE DOOR

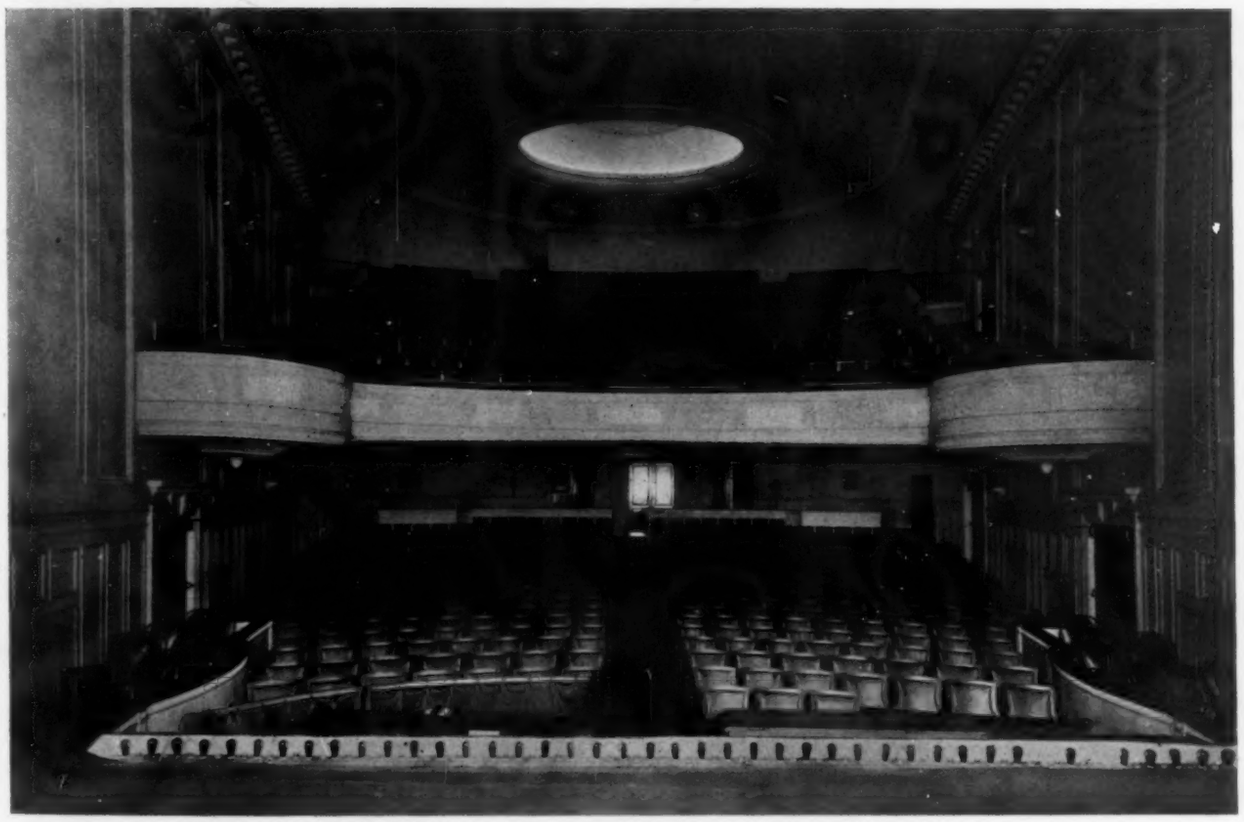
THE CIRCLE PLAYHOUSE, ANNAPOLIS
HENRY P. HOPKINS, ARCHITECT



PLANS, THE CIRCLE PLAYHOUSE, ANNAPOLIS

HENRY P. HOPKINS, ARCHITECT

THE STAGE FROM THE BALCONY



VIEW OF THE AUDITORIUM

THE CIRCLE PLAYHOUSE, ANNAPOLIS

HENRY P. HOPKINS, ARCHITECT

Architectural
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The Work of Thomas W. Lamb, Architect

NO consideration of the architectural side of the motion picture theater problem would be complete without a brief analysis of the work of Thomas W. Lamb, of New York. Examples of the work of this architect are to be found in practically every large city in this country, and the years of his experience in this particular field of architectural effort cover undoubtedly a greater length of time than those of any other picture theater architect. All of Mr. Lamb's work uniformly shows care and study, not only in the plans of his theaters, but also in their architectural treatment and decorative furnishings, in which he is preëminently successful.

Although it is now six years since the completion of the Capitol Theater in New York, this theater stands today as perhaps the most successful and magnificent example of the work of this distinguished motion picture theater architect. It still stands as the last word in regard to size, perfection in equipment, comfort and luxury. It has a seating capacity of 5,230, which is 600 more than that of the Hippodrome in New York. Although having such an unusual seating capacity, the aisles and stairways are so spacious, the lobbies so large and the exits so numerous, that the patrons experience no inconvenience or crowding either on entering or leaving the theater. The style of the French Empire, which flourished under the patronage of the great Napoleon, has been successfully used as a precedent for all the sumptuously designed and gorgeously wrought interior decorations. Illustrations, reproduced from photographs, give as little idea of the magnificence of the interior of this theater as does any attempted description. In order to appreciate it, one has to see this truly royal interior, built on a scale surpassing in size and grandeur anything heretofore attempted in picture theater design and decoration. It stands at the height of development.

One of the notable characteristics of the interior decoration is the use on a large scale of hanging draperies, made of magnificent blue and gold brocade, which fill the high arches above the proscenium boxes and the open spaces between the engaged columns on the side walls of the balcony. No decorative wall treatment could be richer or more effective than this use of draperies, hanging in loose and graceful folds, which should be more often seen.

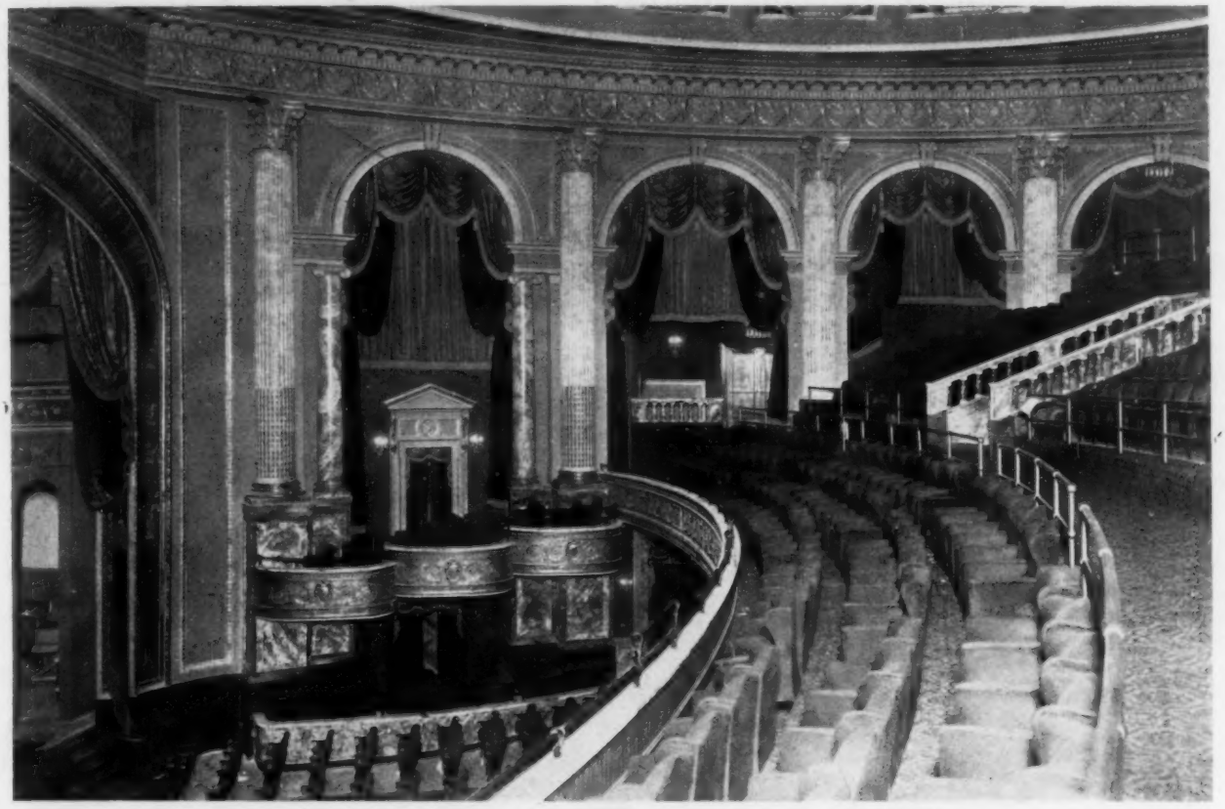
In the handling of the plan of this great theater, the same consummate skill is shown as in the designing of the interior decorations. On account of the great depth of the auditorium, the plan diminishes sharply as it approaches the stage and screen. Following the lines of the plan of the orchestra, the great balcony sweeps down to within 50 feet of the stage, providing a seating capacity of 2,500, which is only 50 fewer seats than are had in the orchestra itself. The saucer-curve of the entire balcony is of unusual interest, providing as it does perfect sight of the screen from every seat. A large dome, 64 feet in diameter, surrounded by ten smaller domes, gives great decorative interest to the ceiling, and provides an opportunity for unusual lighting effects. A richly decorated and perforated sounding board, supported by pilasters and entablature of the Corinthian order, forms a tremendously rich enframement for the usual proscenium arch.

In comparison with the studied magnificence of the Capitol Theater, one of Mr. Lamb's more recent theaters shows, in a somewhat different way, the same skill and success in the handling of the plan and the same unerring judgment in the use of sumptuous decorative effects. This theater is Fox's Theater

Fox's Theater Building, Philadelphia
Thomas W. Lamb, Architect

THE VAST AUDITORIUM OF THE CAPITOL THEATER, NEW YORK

AUDITORIUM IN FOX'S THEATER, PHILADELPHIA
THOMAS W. LAMB, ARCHITECT



AUDITORIUM FROM THE BALCONY, FOX'S THEATER, PHILADELPHIA

THE STAGE FROM THE BALCONY, FOX'S THEATER, PHILADELPHIA

THOMAS W. LAMB, ARCHITECT

in Philadelphia. Although this theater is located in an office building, the architectural treatment of the exterior design clearly suggests and indicates, in a monumental way, the principal purpose for which the structure is designed. As required by modern economic conditions, shops are introduced on the lower floor of this building, so that the real architectural treatment begins at a considerable height above the sidewalk level. It is a pity that the necessity for a continuous succession of shop fronts usually prevents the architects of office and theater buildings from carrying the architectural design of the buildings down through the lower stories to the sidewalk level, but so accustomed have we become to the incongruity of 20 or 30 stories of masonry apparently resting on one or two stories of plate glass shop fronts that we no longer wonder at or question the propriety of this modern phase of architecture.

Fox's Theater in Philadelphia shows a 16-story building in the Classic style, above the second story of which a colossal treatment of the Ionic order breaks the two street facades to a height of five stories. The interior of this theater, although not as magnificent as the Capitol Theater in New York, shows a pleasing consistency and simplicity in design and decoration. As the ceiling height is lower and the theater smaller than the Capitol, a flat, circular ceiling, slightly domed in the center, extends over the entire auditorium, obviating the necessity of use of the sounding board treatment above the proscenium arch which is found in so many of the lofty theaters. The plan in many ways resembles the Capitol's.

Detail, Facade of Fox's Theater, Philadelphia
Thomas W. Lamb, Architect

Observations on Motion Picture Theaters

By C. HOWARD CRANE, *Architect, Detroit*

RECOLLECTION calls to mind the days when it was considered degrading to attend the so-called "movie shows,"—how, after a careful survey up and down the street to make sure that no acquaintance was within sight, a nickel or dime was hastily deposited with a lady in a showcase, and then with ticket in hand a hurried plunge was made through the entrance door into a dank, mysterious and black interior! Newspapers of those days pointed out the dangerous influences such places might and probably would exert on the morals of the habitues; parents would admonish their growing children with words to the effect that attending performances of this nature could but lead to perdition!

At that time these palaces of dubious entertainment were usually buildings intended for other purposes and converted into public halls. Frequently the exteriors were adorned after the manner of a side show at the circus; and in the interiors the seats were arranged much as they would be in a slum mission, with flat floors and little or no ventilation. For heating, radiators were strung along the side walls, and often mere body heat was depended upon, with a few electric fans churning the vitiated air over and over. A white sheet was hung at one end of the hall, and the projection machine placed at the other, near or over the entrance. A wavering, flickering something was to be seen on the sheet, with a wailing accompaniment on an out-of-tune piano. No early "movie" performance was complete without an illustrated song or two; a still-life colored photograph projected on the sheet, showing "Daisies in the Fields," etc., the picture changing with each verse of the song, rendered by a lady or gentleman in a voice charged with pathos.

If space would permit it would be very interesting to narrate the story of the motion picture house from its infancy to its present state of high development, and especially to consider how the architecture of this type of building has kept up with its rapid growth. One of the greatest dramatists and producers of 15 years ago made the prophecy that the silent performance of the screen would, in many ways, replace the presentation of the spoken drama. This prophecy has proved true in several ways. Stupendous productions have been prepared for and shown on the screen which it would have been utterly impossible to present in any other way, and in fact many intimate and important parts which may be readily shown through this medium would have to be described at length by the actors or with many intricate stage settings to carry the story through by means of the spoken drama. Most of our best known actors are enrolled among the large company of those daily seen in one presentation or another in the motion picture houses, and when so bright a star of the theatrical firmament as the late Sarah Bernhardt considered her divine art when presented in silent display worthy of her highest efforts, who dares to comment unfavorably on "moving picture" productions?

I might say that I entered the field of designing motion picture houses when the industry was in its childhood, as one who early recognized the possibilities of developing a building especially designed as a motion picture theater. It is very difficult therefore to write an article on this subject without recalling the endeavors and struggles of the pioneers in the field, who perhaps in their most optimistic moments could not have imagined that which now even a child may behold anywhere; it suggests the wonders and magic of Aladdin and his marvelous lamp, but the change is now apparent everywhere.

In general terms, there should be no specialists in the practice of architecture, since the theory of planning and designing is always the same; but achieving success with experience in designing and erecting buildings for a particular purpose will create special aptitude and ability in that particular field, which may be called merely "acquiring technique," to render better service for that particular work.

The designing and erection of motion picture theaters differ in many ways from the designing and erection of most classes of buildings, first, because building and safety ordinances relating to buildings of this nature are very

Orchestra in The Playhouse, Detroit
C. Howard Crane, Architect

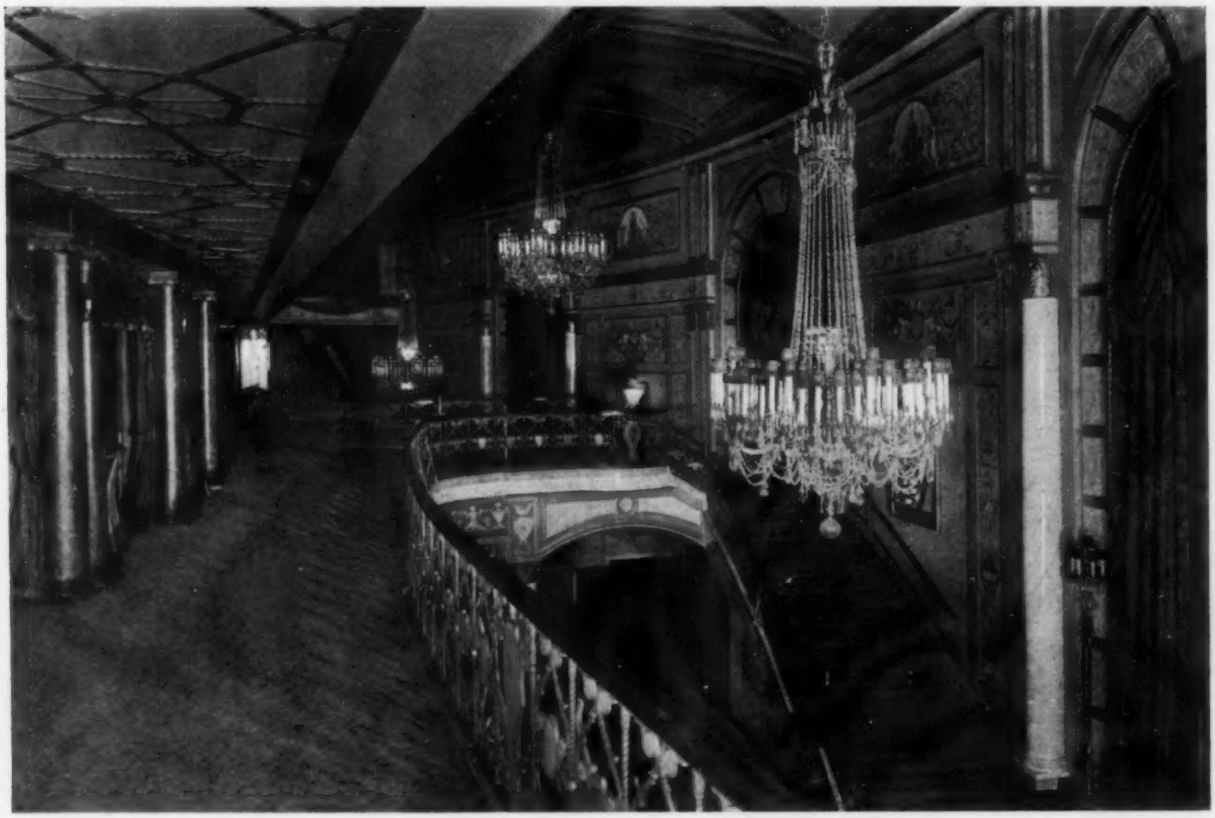
Musicians' Gallery in The Playhouse, Detroit
C. Howard Crane, Architect

rigid, and, second, because the most elaborate decorative effects must be obtained at the least expenditure; third, also, because a theater is for only one possible use,—which is merely to entertain the public.

There are many interesting and alluring bypaths in the study of a motion picture theater,—the mechanical equipment for scenic and display effects, the problems of heating and ventilation, lighting requirements, and the architecture of the edifice. It will be observed that I have not emphasized the importance of any particular division of these alluring bypaths, for the final achievement is to provide for the absolute pleasure and comfort of the patrons, and unless this can be achieved in its entirety, the enterprise will probably prove a failure. To make the audience feel an intimate part of the performance, the production, the architectural and decorative effects, lighting schemes and the musical renditions must form one complete work. The public is very severe in its criticism, and is more likely to magnify a fault than to render due praise to excellence.

Rules and methods for the proper planning and designing of a motion picture theater cannot be propounded and formulated, since every such building constitutes a problem unto itself. If I should be requested to demonstrate any particular method for obtaining the maximum seating capacities, balcony arrangements, sight and projection lines, etc., it could be done only by relating personal experiences and telling of personal experiments, while another architect may arrive at equally good results by using methods peculiar to himself. In this sense the laws are empirical, but the one law to be followed is that a good plan with carefully studied architectural composition will never fail to be recognized as a work of utility and beauty, and therefore a success.

The illustrations included here show several interesting theaters recently completed, three of these illustrations showing various interiors of the Capitol Theater in Detroit, and two other illustrations showing a general interior view of the auditorium,



Stairway and Foyer on the Loge Mezzanine, The Capitol Theater, Detroit
C. Howard Crane, Architect

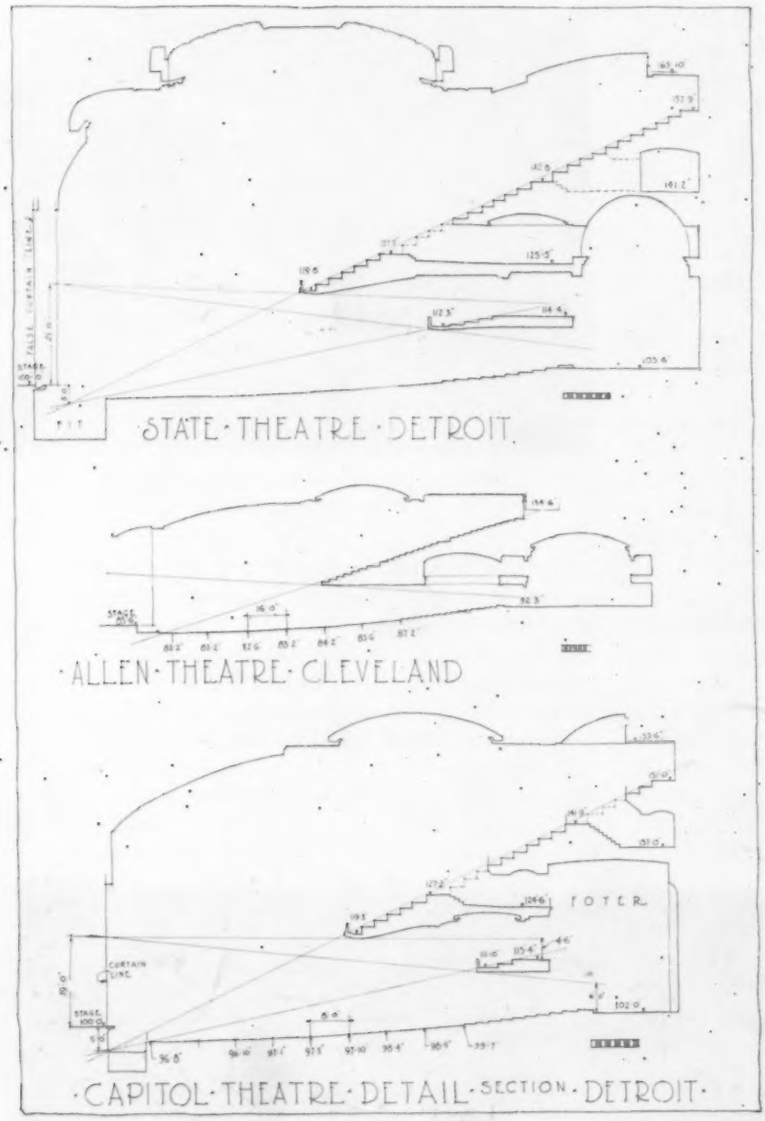
and a small musicians' balcony in the "Playhouse," Detroit, while on page 384 is a sheet of longitudinal sections, showing balconies and sight lines of the State Theater now being erected in Detroit, the Allen Theater in Cleveland, and the Capitol Theater, which has been mentioned already in these pages.

At the right is shown the street entrance lobby, with the main entrance to the orchestra floor and the stairway to the mezzanine of the Capitol Theater. It will be noticed that the ticket booths are placed entirely in this lobby. The holders of tickets to the mezzanine tier boxes enter through the main floor entrance, from which they use the main stairs to the first mezzanine, shown on the preceding page. The balcony patrons use the stairway shown here at the right, which leads to the first mezzanine level, from which they use the flanking stairways to the second mezzanine level, leading to the lower seats in the balcony, from which stairways continue to the upper seats. One very interesting point developed in this theater is the run of the stairways. Those, for instance, at the second mezzanine level are designed with elliptical terminals, lobbies and other interesting points which give the impression that the uppermost seats in the balcony are in no way difficult to reach. I would call attention to the diagram section through this theater. The section on page 384 shows a general view of the interior of the auditorium as seen from the mezzanine boxes. It will be noted how the entrances to the balcony are arranged by center, left and right, reached from the second mezzanine level. Attention is also called to the first mezzanine treatment, which is carried out in the auditorium as a tier of special boxes, obtaining a more exclusive and private seating section, which is very desirable. These boxes continue under the balcony for the whole width of the house.

Main Foyer, Capitol Theater, Detroit
C. Howard Crane, Architect

It is impossible to describe the color effects, the lighting and architectural treatment, but the latter can be understood to a certain extent from the illustrations. I wish to express a truth, however, that no

Note Arrangement of Boxes in the Loge Mezzanine, The Capitol Theater, Detroit
C. Howard Crane, Architect



matter how charming or delightful any part or detail of the design may be, it must be subordinate to the composition as a whole to be entirely successful.

The women's retiring rooms all possess a charm and intimate touch of a more personal nature. Small delightful spots attractively decorated and furnished, count well with patrons, giving excellent meeting or waiting places either before or after entering the auditorium from the street. For patrons who desire to await the beginning of the next picture these little rooms fit delightfully into the scheme. One particular room is for women patrons, and is decorated and furnished in the style known as Chinese Chippendale. The men's retiring and smoking rooms are quite as well and appropriately furnished. I recall an amusing remark made by a foreign fellow student in discussing the Paris Opera House by Garnier, with its *entre salle*, grand staircase, promenades, restaurants, etc., with these words, "What is it all for, anyway, these foyers, stairs, etc., if it is not to get to a seat as quickly as possible?" This chap only recognized experience, and expressed it well with cold practicality.

One illustration is of the general auditorium of The Playhouse, which is quite novel in its treatment. It will be noticed that the usual proscenium arch is not provided, nor is there any flare around the stage opening. Here a good Italian treatment, in which the wood contrasts effectively against the interior stone work, has been employed. The side arches, which are handled very simply, count more in simple scale than they would have, had any attempt been made to obtain ornamental architectural decoration. For the painted wood ceiling between the stone pilaster bays and the portion of ceiling which might be called the ceiling proper, a charming contrast in levels has been obtained. In this house an innovation has been introduced by providing a musicians' balcony, or perhaps better called a minstrels' gallery, which is used between acts when the house is engaged for spoken drama. If a large production is presented, requiring a larger orchestra, the first few rows of seats and the floor under them are removed, below which is the necessary orchestra pit. The little minstrels' gallery is shown at the top of page 382.

The sectional diagram sheet given upon this page is almost self-explanatory. It is to be noticed, however, that the sections of the State Theater and the Capitol Theater are both provided with mezzanine tiers of boxes, while the sections through the Allen Theater show it to be a typical one-balcony house. It will also be noticed that in the section through the State Theater an unusually deep orchestra pit is indicated, which permits the raising and sinking of the orchestra platform, allowing the orchestra to be concealed while the organist is performing, then to be raised to the level of the stage for the overture or concert numbers. The organ console may likewise be raised or lowered. All sight lines have been shown on this illustration, and the various elevation levels are taken in relation to the stage floor line or datum, 100 feet.

In this brief discourse I have endeavored to omit any rules or principles to be followed in the plan or design of a motion picture theater. If there is one particular type of building which deserves the most profound thought and study and the proper use of materials for desired architectural and decorative effects, it is in a building of this character. As has already been said, the planning of each particular theater constitutes a problem entirely to itself, to which only the most general of rules can be applied.

The Planning of the Motion Picture Theater

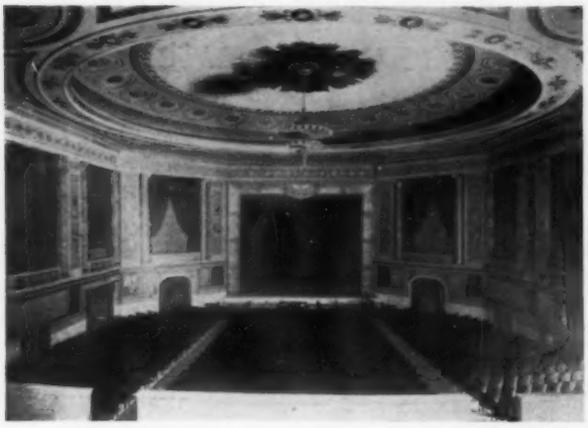
IN every large city in the United States varied and strict rules of the building code influence the planning and arrangement of the motion picture theater. For the protection of human life in buildings designed to accommodate great numbers of people in one enclosure, the regulations of municipal building codes, fire underwriters, etc. cannot be too strict. They guard the safety of the public.

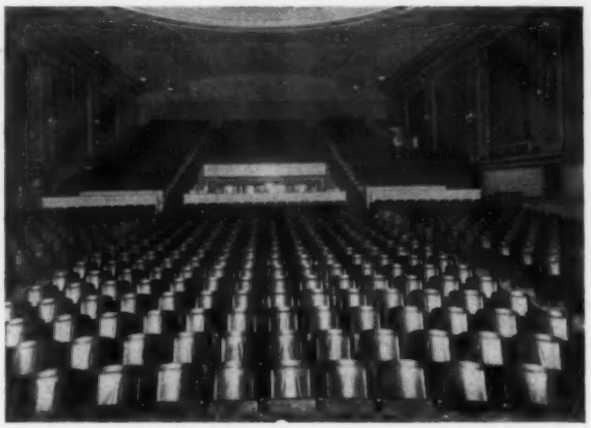
The next factor, after the ironbound building code, to influence the plan and design of the motion picture theater, is its site. The plan of the theater depends largely upon the size and location of the lot. A corner or mid-block lot each requires a different plan arrangement. If located in the heart of the theatrical district of New York or any other large city, the excessive cost of the land necessitates having the largest possible seating capacity, as the investment involving cost of land, building and equipment must be carefully studied to insure a proper return on the money invested. The size of the theater is also determined by the character and size of the population of the locality, as well as by the amount of money available. Cost is usually calculated either per seat or per cubic foot, but usually on the former basis. Variation in cost is due to many causes, chief among them being the location of site, quality and method of construction, and character of interior decorations and furnishings. Cost per seat varies from $125 up to as much as $200, and in some exceptionally magnificent theaters, even higher. A theater completed two years ago in Brooklyn cost only $125 per seat, not including the cost of land, which was low on account of the locality's character.

Once the site is selected and purchased, then comes the question of how many seats a theater shall have. As said before, this depends a great deal upon the neighborhood. Movie theaters pay best in localities such as are found in mining and factory towns and in tenement house districts. The great motion picture theaters found in the hearts of the great cities are located in what are known as "transient districts,"—in other words, the theaters in the Times Square section of New York cater to a transient public in the sense that all patrons come from a greater or less distance to attend performances and picture productions. This is true in any large city.

The type of seating arrangement must next be determined. If the size of the lot permits, the so-called "stadium" type of seating may be employed to advantage, but if the site is small, the balcony type

The Stadium Theater, Brooklyn
Charles A. Sandblom, Architect





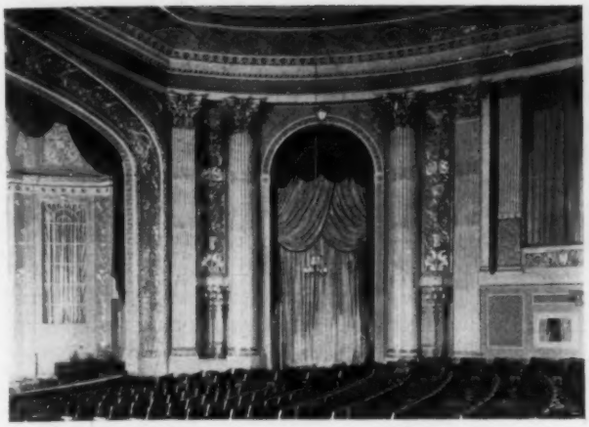
Auditorium of the Broadway Theater, Astoria, New York
Charles A. Sandblom, Architect

of house is generally required. Theaters located in the hearts of cities require balconies in order to secure a requisite seating capacity. The stadium plan has become popular because it permits a pitch to the rear part of the auditorium which would be too steep to come under the building code regulations governing the pitch of aisles if the auditorium floor were continuous from the proscenium arch to the projection booth. No steps are ever allowed on the orchestra floor to obtain proper height for the rear seats, and the aisles leading to them would be too steep unless steps were used. The stadium type of seating gives the effect of a continuous sweep of the orchestra floor from stage to rear wall, the rear third of which is arranged with steps such as are found in balconies. Two steps are allowed to each row of seats. The building codes of some cities permit a row of only ten seats in a regular balcony or in a stadium balcony, but in New York a row of 14 seats is permitted in both orchestra and balconies, or not more than six seats between any seat and an aisle. The space between seats back to back under the New York law is 2 feet, 8 inches, which makes it possible for people to pass through without the necessity of those who are already seated arising to let others pass. Some cities, however, allow 2 feet, 6 inches between seats, which does require people seated to stand up in order that others may pass. A fair seat allowance, from center to center of arm is 20 inches.

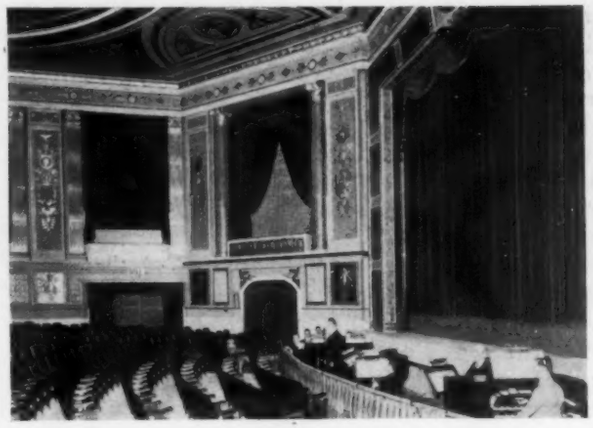
Where balconies are used, the problem of sight lines is one to be carefully studied, as it must be possible for the occupant of every seat to see at least the front of the stage and part of the orchestra. Balconies must therefore not project too far over the orchestra seats, but should be kept as far back as the total desired seating capacity of the theater will permit. The desire of owners to obtain as many seats as possible in their theaters is often responsible for pushing balconies too far forward. If a balcony is brought too far forward, or if it is too steep, the sight lines become incorrect and faulty, and the vision becomes distorted. This is true in both motion picture and "legitimate" theaters.

The usual slope is about 14 inches on a two-step rise to every 2 feet, 8 inches, which is the width of each platform on which a row of seats is placed. A balcony seat located more than 50 feet above the level of the stage, or more than one balcony in a motion picture theater, is impractical from the point of view of sight. But in a combination "movie" and vaudeville house, two balconies may be successfully included. Balcony steps are usually 7 to 7½ inches

Auditorium of the Jackson Theater, Jackson Heights, New York
Charles A. Sandblom, Architect



Detail of the Decorative Treatment of the Proscenium and Side Walls in the Stadium Theater, Brooklyn



Orchestra Pit, Proscenium Arch and Organ Balcony in the Astoria Theater, New York

Charles A. Sandblom, Architect

in height, but from 6 to 7 inches is a more comfortable rise for a 12-inch tread. In regard to sight lines in orchestra floors, it is an interesting fact that people see *between* the heads of those in front and not *over* them, but beyond 30 or 35 rows back from the stage there is trouble in seeing between heads if the floor is not properly inclined. It is therefore customary to slope the auditorium floor. This slope begins from 6 to 10 feet back of the line of the stage or rail of the orchestra pit, if there is one, according to the depth of the auditorium. The building codes in different cities regulate the slopes of orchestra floors. In New York the building code permits a rise of 1 inch to every 12 inches, while in Boston a greater pitch to the orchestra floor is permitted. In most cities steps are not allowed in orchestra aisles, and they should be avoided whenever the plan of the theater will permit. When it comes to regular balconies, the pitch permitted by law is so steep that inclined planes for the aisles are impractical, and steps are always used. In width, aisles vary from the front to the rear on auditorium floors. Starting with 3 feet as a minimum width at the front of the orchestra, aisles increase in width at the rate of 1½ inches to every 5 feet as they go back, except in the case of aisles running from exit to exit, where it is permissible to make them of uniform width by adding to the 3 feet required one-half of the increase in width, according to the length of the aisle. In regard to sight, distortion becomes too great at 40° from the central axis of the picture, to overcome which screens are often used, having a slight curve as well as a slant; but it is better, if possible, to avoid making a theater so wide that it is necessary to locate seats beyond a 35° line. This is much the better plan.

In regard to exits, they are determined in every case by the local building code. In New York, if a theater is located in the middle of a block, a court upon which exits must open is required on two sides of the auditorium. If located on a corner lot, an exit court is required on only one side. If the house accommodates over 700 people these exit courts cannot be less than 8 feet wide. Besides two stairways at either side of the theater, regular balconies must have fire escapes serving two exits on each side. Street entrance doors must occupy at least 25 feet in the clear, and no single opening can be of less than 5 feet. In balcony theaters it is necessary to install at least a 3,500-gallon tank on the roof. This, however, is not the case in theaters without balconies, if the water pressure in the street is high enough. Hose racks and standpipes, as well as emergency fire tools, are

Broadway Theater, Astoria, New York

Jackson Theater, Jackson Heights, New York

Charles A. Sandblom, Architect

required in all theaters by both the building code and laws of the fire department. In regard to stairways the code requires that there can be no continuous run of more than 12 feet, without a flat, rectangular landing. In no case are "winders" permitted. The width of stairways depends upon the number of people the entire house can accommodate. The building code in every case determines this width. Balconies require a stairway at each side of the auditorium. Where more than one balcony or gallery is used, there must be entirely separate and independent stairways running from each balcony or gallery above the first to a separate exit or the street level. In balcony and gallery stairways, 7¾ inches is the maximum height allowed for the riser, and 10½ inches the minimum width for the tread, independent of the nosing.

The location of the projection booth is one of the most important problems in the planning of the motion picture theater. It is sometimes advantageous and desirable to locate the projection booth on the first balcony or mezzanine level, instead of placing it in the rear wall of the theater at the back of the top gallery or up in the ceiling cove. The greater the distance of the projection booth from the sereen, the more powerful and expensive are the projection machines required to properly project the picture. The quality of the picture thrown on the screen is clearer and richer in tone if the projection machine is as near the screen as practical planning will permit. In the Grauman Theater, Los Angeles, and the Premier Theater, Brooklyn, the picture booths are in each case located in the center of the mezzanine, and in the latter theater with boxes seating six or eight on each side. In the Grauman Theater, the booth is located behind a deep balcony fascia on the mezzanine under the main balcony. This lower location of the projection booth adds greatly to the strength of the picture and the convenience of the projection operators. The ventilation of the projection booth can never be too carefully studied and efficiently worked out. In New York the building code requires that each machine, as well as the room itself, shall be separately ventilated. Usually three projection machines are installed in each booth, located 4 feet on centers. A spotlight machine requires more space around it. A stereopticon is also usually installed in the projection booth of a theater. As the ventilation, cooling and heating of motion picture theaters are fully and carefully considered in another article in this issue of THE FORUM, it seems advisable to omit here all consideration of these very essential features of the motion picture theater. It might, however, be well to add, in closing, that in the experience of the writer, oil-burning boilers for heating theaters save a great part of the coal bill.

The foregoing notes cover only a few of the essential points necessary for the safe guidance of the architect unacquainted with theater planning.

Auditorium of The Premier Theater, Brooklyn
Charles A. Sandblom, Architect

The Question of Lighting

By I. J. LICHTER, *Electrical Engineer, New York*

ONE of the best known owners of theaters in one of our largest cities engaged an electrical engineer to design his lighting and wiring system, not a great while ago. The engineer went at it from the point of view of having really good illumination, and made his plans accordingly. After he had done this, he turned the plans over to the owner. The owner then called in his fixture contractor, and after obtaining from him a list of fixtures which would supply the illumination desired by the electrical engineer, he promptly proceeded to soundly berate the electrical engineer, who firmly insisted that he had not called for too much lighting. The engineer tried his best to technically convince "Mr. Owner" that he knew what he was talking about. Mr. Owner's reply was one that is worth recording: "I don't question that we ought to have the amount of lighting you say, but will anybody, besides yourself, know it if we don't have it? If an architect visits this building he will look at the architectural effects; if the theater man visits the building he will look at the stage; if the tired business man comes here he wants a comfortable seat and be able to read his program, and he does not want the footlights too high. If the women come here, they look at the tapestries and the wall decorations, they look at the furnishings and the trimmings, all of which are pleasing to the feminine heart and eye. The only one who is going to notice how much lighting we have here will be the electrician, and electricians don't fill our theater!"

This brings me to the point at once. Electrical men, planning theater illumination, must of necessity spend a great deal of time and thought designing that part of their work which is behind the stages or in the projection booths. When it comes to the auditoriums they are of necessity governed and guided by others. Nothing is more important behind the stage, in the dressing rooms, in the booth or other parts of the theater which are not open to the public, than the electrical work, fixtures for securing illumination effects, wiring, observation of the fire laws and state and municipal building code rules. But in the auditorium Mr. Owner, Mr. Architect and Mr. Public are the designing and deciding geniuses. With due respect and regard for these three deciding factors,—inasmuch as in this article we shall speak only of the auditorium and public rooms,—let us now see what various lighting schemes, designs and arrangements these critics favor.

There are three types of lighting which may successfully and appropriately be used in the auditorium of a theater, everything else being in harmony with the method to be used. First and oldest, there is direct lighting, procured by means of chandeliers placed on the ceilings or lights on the side walls, or both; second, there is indirect lighting, which is secured by means of so-called "strip" reflectors placed behind cornices or other features of the interior decorative scheme; third, there is a combination of types one and two. Naturally, where chandeliers are used for ceilings and brackets for side walls, they must of necessity be harmonious in design with the type of architecture employed. A very good architect friend of mine would say: "For a Georgian interior, chandeliers and wall brackets of silver or crystal should be employed; for a Tudor interior, dull brass, and for Italian or Spanish interiors, fixtures of wrought iron, properly detailed, should be used, etc." I do not profess to know whether my architectural friend was "spoofing" or not, because if I knew all about Tudor and Georgian interiors, I should very likely try to hang out a shingle as an architect. But whatever all this means, it is certain that when Mr. Electrical Man has finally determined upon the minimum amount of light that a particular portion of a theater should have, that quantity of light is to be given from fixtures which supply it from so many incandescent bulbs of so many watts.

In all the different theaters I have seen, and in the various schemes which I have studied, I might say that the use of direct fixtures gives a theater a more comfortable, intimate and homelike appearance and requires the use of fewer lamps, costing less to run, than the electrical equipment necessitated by scheme number two. But each year sees less and less use of direct lighting, as our theaters are using more and more the semi-direct forms of lighting. A method which grows more popular each year, is to conceal "strip" reflectors in recesses around the bottom of the main dome, to have illuminated panels in the main ceiling, and in the balcony soffit, sometimes together with direct lighting brackets in the side walls. Very often this same concealed "strip" lighting is used around the proscenium arch, and in several of our very largest theaters concealed "strip" lighting is used to completely outline the entire main ceiling. In addition to the "strip" lighting used in the main dome, a chandelier is often hung from the center of it, so that there are lights below the concealed cove lighting of the dome. From a lighting viewpoint, I believe that this method of illuminating a theater is very poor, since a large percentage of the light is lost. Often decorations that require a great deal of time and thought and money to design and construct, are spoiled by this type of illumination. I have in mind a theater that has a beautiful main ceiling, not only beautiful according to my taste, which I am free to admit is not trained or dependable, but also according to the judgment of architects, interior decorators and others who have seen

it, and who are unanimous in saying that it is unusually fine. The center of this ceiling, which takes the form of a dome, and the bottom of the dome itself, are illuminated by means of concealed "strip" lighting. That the dome itself is beautifully finished in gold leaf and painted in wonderfully harmonious tints, you perceive the minute the current in the "strips" is turned on. But what becomes of the main ceiling? All of the lighting from the dome "strips" is *above* the main ceiling, and the moment this wonderful dome becomes diffused with its soft light, the ceiling becomes a drab, flat affair. Recently the management of this theater became convinced of the undesirability of this condition, and suspended a chandelier from the center of this dome, which hangs sufficiently low to allow its bulbs to light up the ceiling above and bring out the wonderful tints and tones in its decoration, doing it full justice.

The theaters which employ "strip" lighting, or a combination of indirect lighting and chandeliers, are again divided into two sub-divisions,—so-called "dramatic" houses, and vaudeville or picture houses. In the dramatic houses, whether "strip" lighting is used or not, a single color, usually white or amber, is used for the lighting. In the vaudeville or picture houses the lighting is usually more elaborate.

Let us see how this is accomplished. The strips which are used in the main dome, around the proscenium arch, etc., generally consist of flat strips of metal, with or without reflectors, and on these strips are placed 40-watt lamps, arranged three lamps to the foot, the first lamp in each case being white, the second red, and the third blue. Thus you have throughout these strips a succession of white, red and blue lamps. Where illuminated panels occur, either a round strip or a flat tin pan is used, having a group of lights divided into red, white and blue. All of these units are arranged on successive divisions called circuits, and the wiring for them is run to a device on the stage which is called a switchboard, and forming a part of this switchboard are units which offer varying degrees of resistance to the passage of the electric current. These units are called "dimmers." In an installation such as would be made in a large vaudeville house, these various dimmers are grouped and controlled by a large geared device having what is known as a "slow motion" wheel. This wheel, having various dimmer plates properly set, is the device which the stage electrician uses to give the wonderful color effects seen in our large theaters. I should like to consider the many ingenious mechanical contrivances which go to make up a theater switchboard, but that would take too much space and is foreign to the subject matter in hand, so that I must drop the subject at this time.

With this "slow-motion" wheel, the operator can cause all the lights in the auditorium to be white (commercial term), and then gradually dim them down until finally they are merged into the palest effect of blue. This blue then grows deeper and deeper, until when it is at its deepest point it gradually turns into magenta, then changes to purple, and after that the blue rays disappear and it becomes pink, finally turning into the red of a brilliant sunset, blending and re-blending at the will of the operator by the turning of this slow-motion wheel.

The electrical apparatus which produces these changing color effects is governed by various authorities, including fire department, state department, building department, National Board of Fire Underwriters and others. Incidentally, while speaking of these several governing bodies, much credit must be given to them for the great strides which have been made in theatrical illumination since they have taken an active interest in theater work. For instance, when you come into a theater, you see "exit" signs over the various doors, which in cities like New York have large letters, reading "exit," and a number, and when you read your program you are instructed to choose the *nearest* door, and in case of necessity to go to this exit. These exit lights must be constructed in accordance with fixed rules. They are so arranged that the current with which they are supplied has nothing to do with that of any other wiring in the building, such as stage wiring or booth wiring. This also applies to the lighting in lounging rooms, men's and women's rooms, lobbies, halls, foyers, corridors or any other portion of the theater to which the public has access, and applies to such lighting in these portions as is usually operated during a performance.

Let us suppose, for instance, that a panic or a fire should occur in a theater, whereby the operator at the switchboard on the stage (in dramatic or vaudeville houses, or in the booth of a motion picture house) should become for any reason incapacitated or be away from his switchboard at the time of a fire; or suppose the main fuses blew out and made this switchboard totally inoperative; then all of these exit lights and the various other lights placed in that portion of the theater occupied by the public would still continue luminous. Thanks to our very wise governing rules, this wiring is entirely for the safety of the public, and is not controlled in any place, excepting one, generally very near the box office.

In various cities in this country legal requirements differ, being more rigid in some than in others. For example, in one large city, exit lighting is entirely done by means of illuminating gas, in another kerosene or candles are required, and in still another city the law requires that every fixture in the auditorium, in addition to such portion of it as is controlled from the stage switchboard, must have sockets which are on this independent wiring, so that it is impossible for the switchboard operator to "block out" any fixture in the auditorium, and in still another city it is required that there shall be emergency lighting for every 25 square feet of auditorium. There are many other things required by various governing bodies in different cities, but this will give the reader some idea of how much thought and study have been used in safeguarding the patrons of our modern theaters.

Use of Indian Motifs in Theater Decoration

CERVIN & HORN ARCHITECTS; W. T. BRAUN, ASSOCIATE

By MARY A. ROLFE

EDITOR'S NOTE:—When the Illinois Art Extension Committee, of which Lorado Taft is the Chairman, was touring the northwestern corner of the state recently, discovery of this theater was made, and all present exclaimed over the beauty of the designs and coloring. Mr. Taft spoke particularly of the unusual restraint shown in the use of the motifs, and of the unusual quality of the organ screen design. This use of decorative motifs is in accord with present tendencies, in decorating public buildings, to make the most of whatever has a local significance or association.

IN 1832 Lincoln, Zachary Taylor and Jefferson Davis were helping the state of Illinois to drive beyond her borders the red men who under Black Hawk, chief of the Sacs, made their last stand at Rock Island. The state won; Black Hawk was captured. In his farewell address to his people, after detailing the Indians' side of the struggle and his cause for action, he said: "Black Hawk has done nothing of which an Indian need be ashamed." Today the city of Rock Island honors the memory of this proud chieftain. Buildings and clubs bear his name. His trails through the woods are marked that boy scouts may follow them, and the local museum is full of rare Indian relics. The city, situated where the Rock River enters the Mississippi, breathes Indian lore, looks out over Indian country, and seems to freely feel the abiding presence of those Indians who so loved the beauty of their home that, having once left, they returned, venturing back to look again upon it,—and thus perished!

It is not, therefore, by chance that Benjamin Horn, of Cervin & Horn, architects, has decorated the Rock Island theater after the Indian manner. Named the "Fort Armstrong Theater," in memory of the old fort from which the white men marched against the Indians, it breathes in every color and ornament the spirit of those first beauty-loving inhabitants. Years of listening to Indian lore and many patient hours spent in museums have resulted in a theater unique in its decorative scheme—a most refreshing contribution to architectural decoration. Color and design have been used with lavish variation because the Indian motifs were as varied as Nature's own, from which they were copied; but they have been used with restraint,—the combined product of cultivated white taste and Indian instinctive respect for Nature's forms.

The motifs beloved by the Sacs and Musquakies were those with which Nature surrounded them. The flower that bloomed by the tepee door became the decorative border for the ceremonial dress, and from it was copied onto the walls of the theater. Over the outer doorway and around the lobby runs a frieze patterned after the leaf and butterfly design on a Musquakie breech cloth. The head of an Indian god breaks the frieze over the door. Around its neck are suspended a pair of birds' feet and an arrow symbolizing the hunter. A pair of wings recalls the Indian dance, which was accompanied by the waving of wings. The turtle, sacred to the Indian, is pictured in the form of a wooden box to hold sacred instruments. Indian dancing masks, grotesque in form and vivid in coloring, break the frieze on the side walls. Above the frieze runs a border of the water grasses which grew along the banks of the Rock River. The ceiling band was copied from an Indian garter. The lights for the lobby are done in parchment and bronze, the parchment painted with a conventionalized design of birds and native foliage.

Detail of the Entrance Lobby

The main foyer has a broad frieze of grape leaves interwoven with the Swastika. Lambrequins of Indian red with bands and fringe of Indian blue mark the openings to the auditorium. The mezzanine foyer is ornamented with a dandelion design from an Indian shawl. A border of Indian corn, in clusters of ears, edges the well of the mezzanine.

The stage curtains of blue bordered with rose carry the double-headed

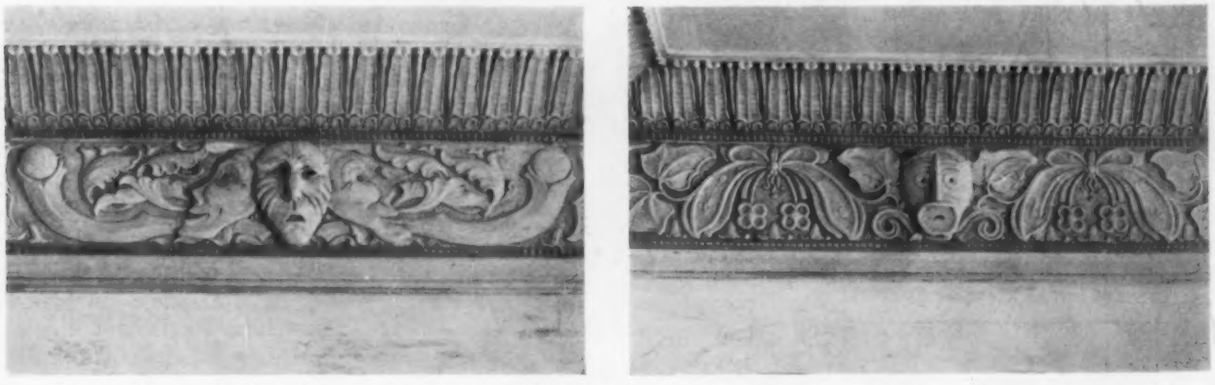
hawk design. A series of strange coffin-like Musquakie motifs, composed of Indian poles and winged hawks' heads, forms the decoration for that part of the proscenium arch which is next to the curtains. Outside of that runs a wide border of arrow heads. Above, three Indian chieftains look down upon the house dedicated to the memory of their passing. Between them golden screens of Indian reeds and ears of ripe corn hide the lighting bulbs.

The organ grille on the right and a companion grille on the left of the stage carry the same reed and corn designs surmounted by winged owls' heads. Beneath these grilles are delicately wrought brackets enclosing panels drawn and colored in the delicate patterns and soft shades of old Indian shawls. Similar shawl designs form panels on the front and rear walls and along the side walls. The frieze which breaks the side walls is of birds' wings, blue beads and owls' heads. Small Indian heads surmount the pilasters—guardians for their chieftains. The upper wall panels carry Indian shields. The ceiling beams are pathways for curling serpents, separated from one another by quivers of arrows done in green, gold and red. The dome of soft cloud coloring is broken by a band of intertwined serpents, red and white on the inner curve, and blue and gold on the outer curve, the design adapted well to the requirements.

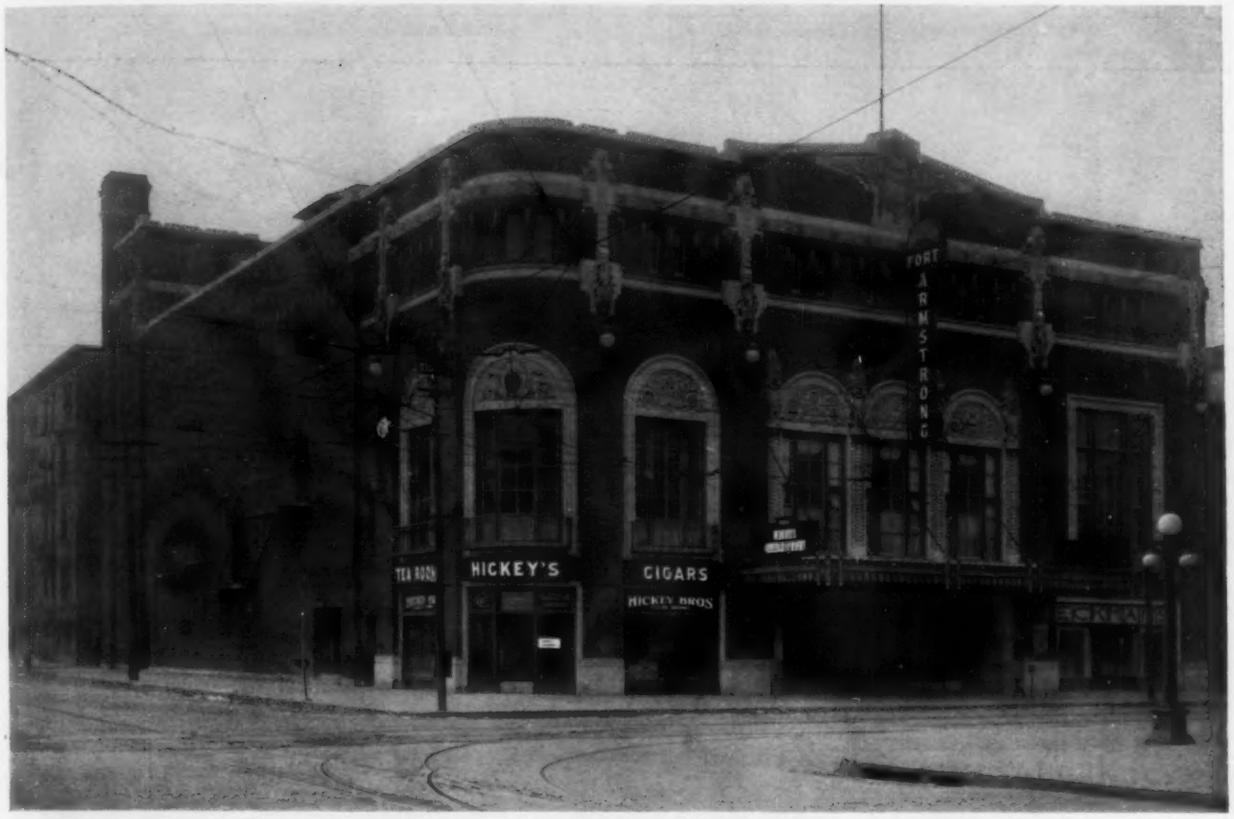
The wall panels and the backgrounds for the friezes are of a yellower note than is consistent with Indian design. This was made necessary by the need for reflected light. It is offset by the multicolored lights around the organ screen and by those which flood down from the wide grilles between the heads of the chieftains, giving to the end of the stage a bonfire lighting effect which easily evokes the memory of Indian days. Thus the ghosts of those days walk in this castle, built years later to their memory, and in their honor.

Indian Head Ornament Used as a Feature of the Proscenium Arch Decoration

The effect of the interior of the auditorium as a whole is remarkably bright and cheerful. The gay coloring of the Indian designs, against the yellow background of the walls and ceiling, makes a happy contrast. Although the general scheme of the architectural treatment of the auditorium is much like that of any other modern theater, a deep receding arch meeting a heavily enframed proscenium, and a ceiling showing the typical saucer-dome effect, the impression derived from this theater is quite out of the ordinary. It is certainly interesting to find decoration derived entirely from Indian motifs used throughout the interior in a most orthodox and accepted fashion. Indian heads form the capitals of the pilasters on the side walls, as they also ornament three of the principal panels in the proscenium arch. So oriental, however, is the effect produced by this consistent and complete use of ornamentation derived from Indian precedent, that it seems probable that all of the primitive races, Eastern as well as Western, derived their details from what they saw about them.



Indian Masks Used in the Plaster Frieze of the Lobby of the Fort Armstrong Theater, Rock Island, Ill.



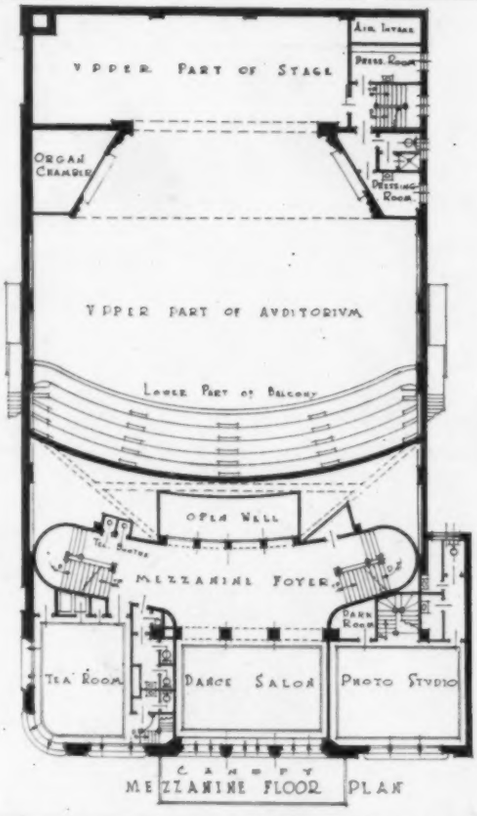
FRONT ELEVATION

AUDITORIUM AND STAGE

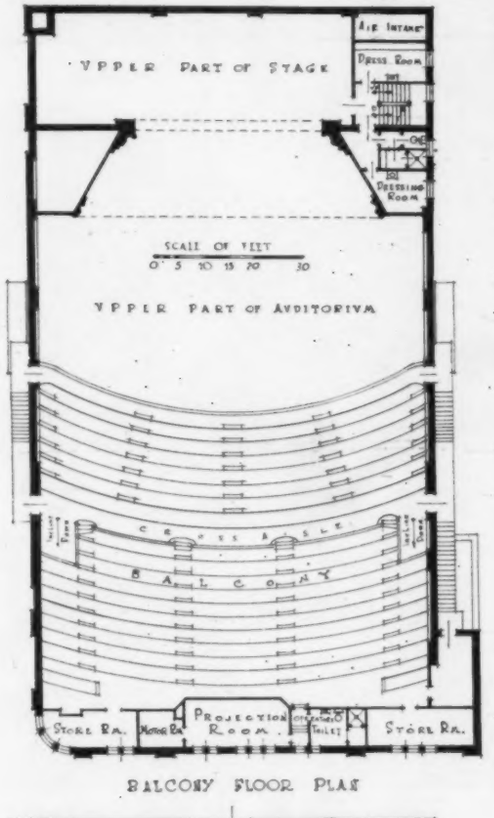
(Plans on Back)

THE FORT ARMSTRONG THEATER, ROCK ISLAND, ILL.

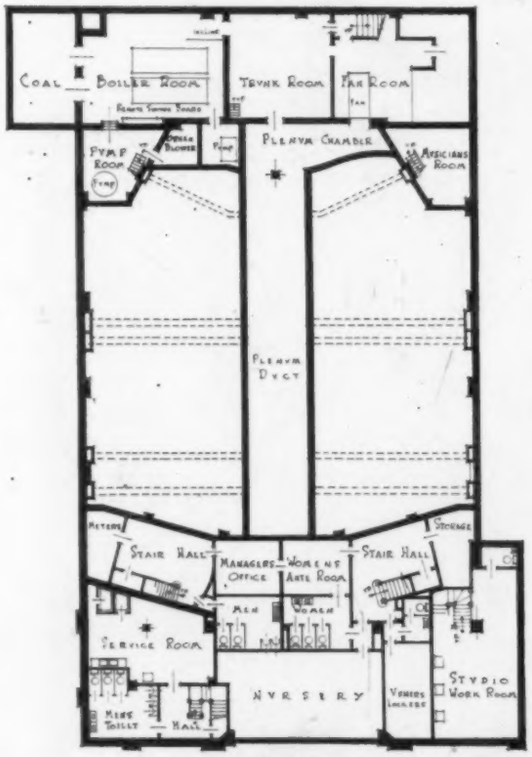
CERVIN & HORN, ARCHITECTS; W. T. BRAUN, ASSOCIATE



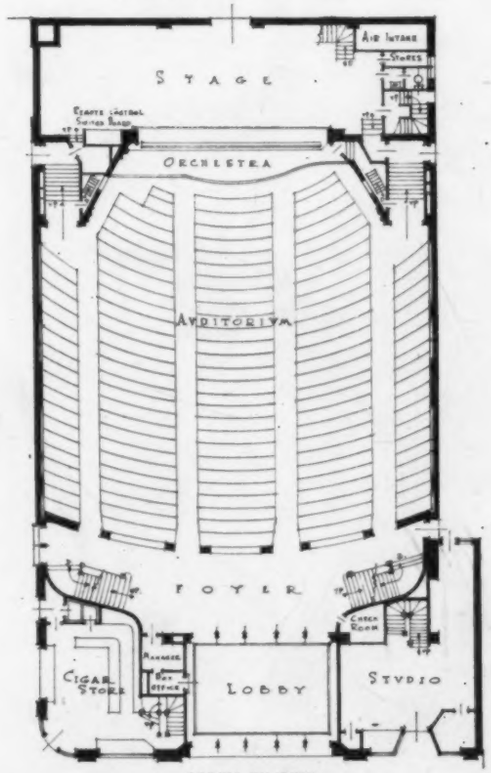
MEZZANINE FLOOR PLAN



BALCONY FLOOR PLAN



BASEMENT FLOOR

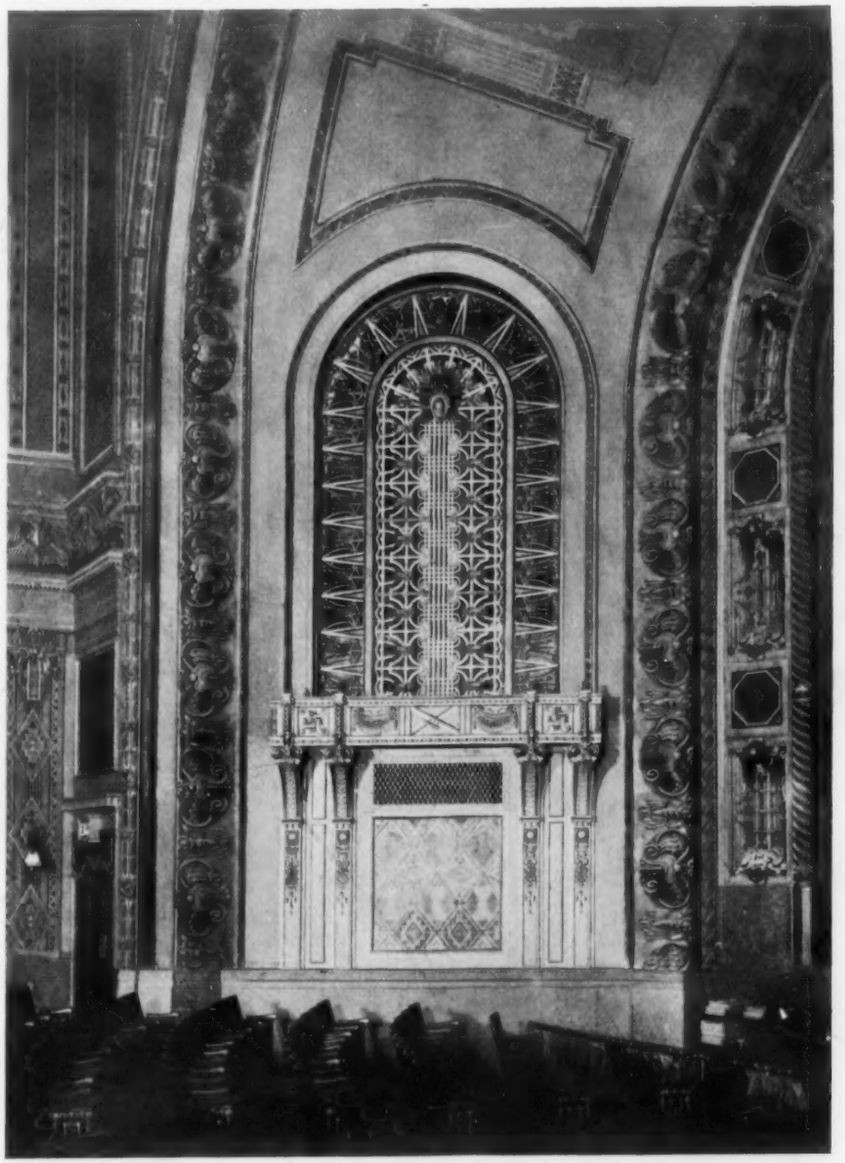


MAIN FLOOR

PLANS, THE FORT ARMSTRONG THEATER, ROCK ISLAND, ILL.

CERVIN & HORN, ARCHITECTS: W. T. BRAUN, ASSOCIATE

TERRA COTTA DETAILS



ORGAN SCREEN AND PROSCENIUM

THE FORT ARMSTRONG THEATER, ROCK ISLAND, ILL.

CERVIN & HORN, ARCHITECTS; W. T. BRAUN, ASSOCIATE

Architectural
Library

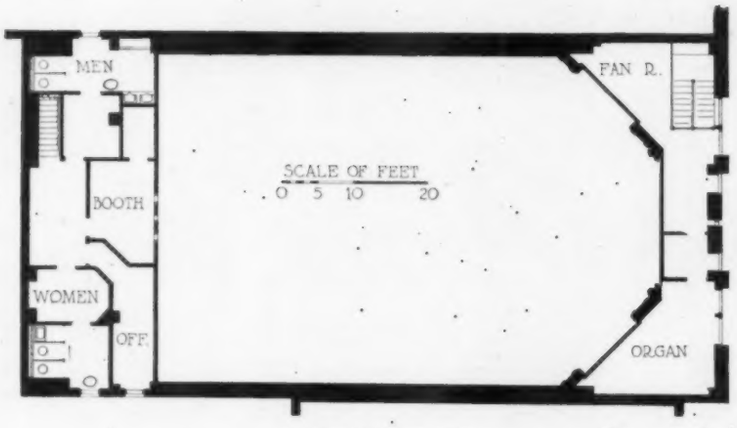
ENTRANCE CORRIDOR

VIEW OF LOBBY

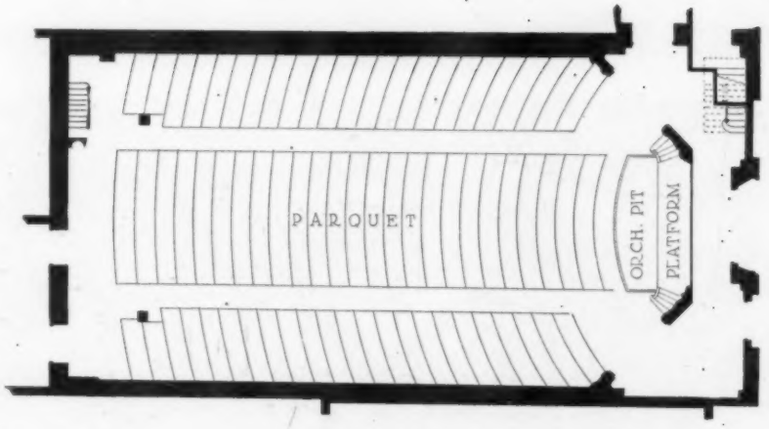
(Plans on Back)

THE CAMEO THEATER, NEW YORK

EUGENE DE ROSA, ARCHITECT



MEZZANINE FLOOR



MAIN FLOOR

PLANS, THE CAMEO THEATER, NEW YORK
EUGENE DE ROSA, ARCHITECT

VIEW TOWARD THE STAGE

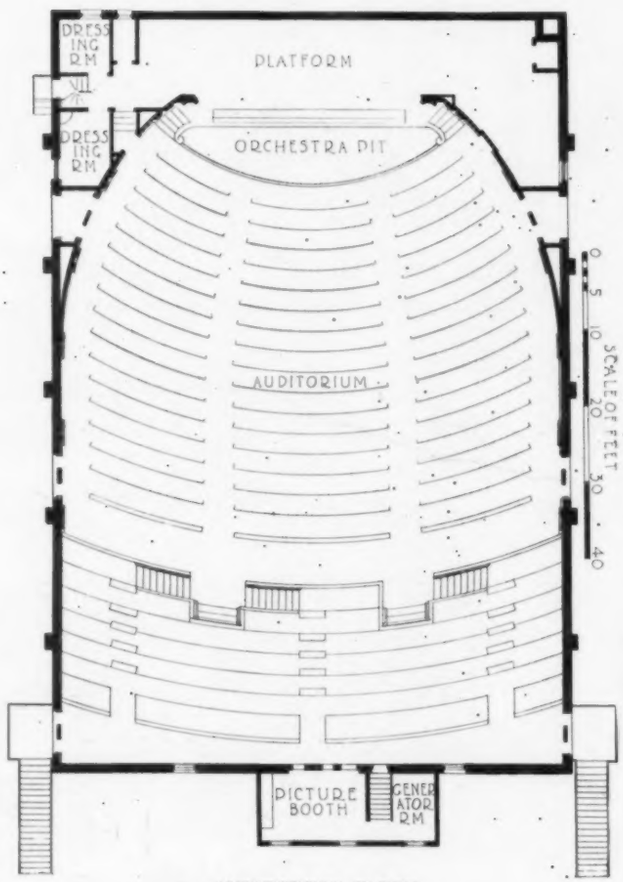
AUDITORIUM FROM THE STAGE

THE CAMEO THEATER, NEW YORK

EUGENE DE ROSA, ARCHITECT

Architectural
Library

THE LAFAYETTE THEATER, SUFFERN, N. Y.
EUGENE DE ROSA, ARCHITECT



AUDITORIUM FLOOR

PLAN, THE LAFAYETTE THEATER, SUFFERN, N. Y.
EUGENE DE ROSA, ARCHITECT

VIEW TOWARD THE STAGE

AUDITORIUM FROM THE STAGE

THE LAFAYETTE THEATER, SUFFERN, N. Y.

EUGENE DE ROSA, ARCHITECT

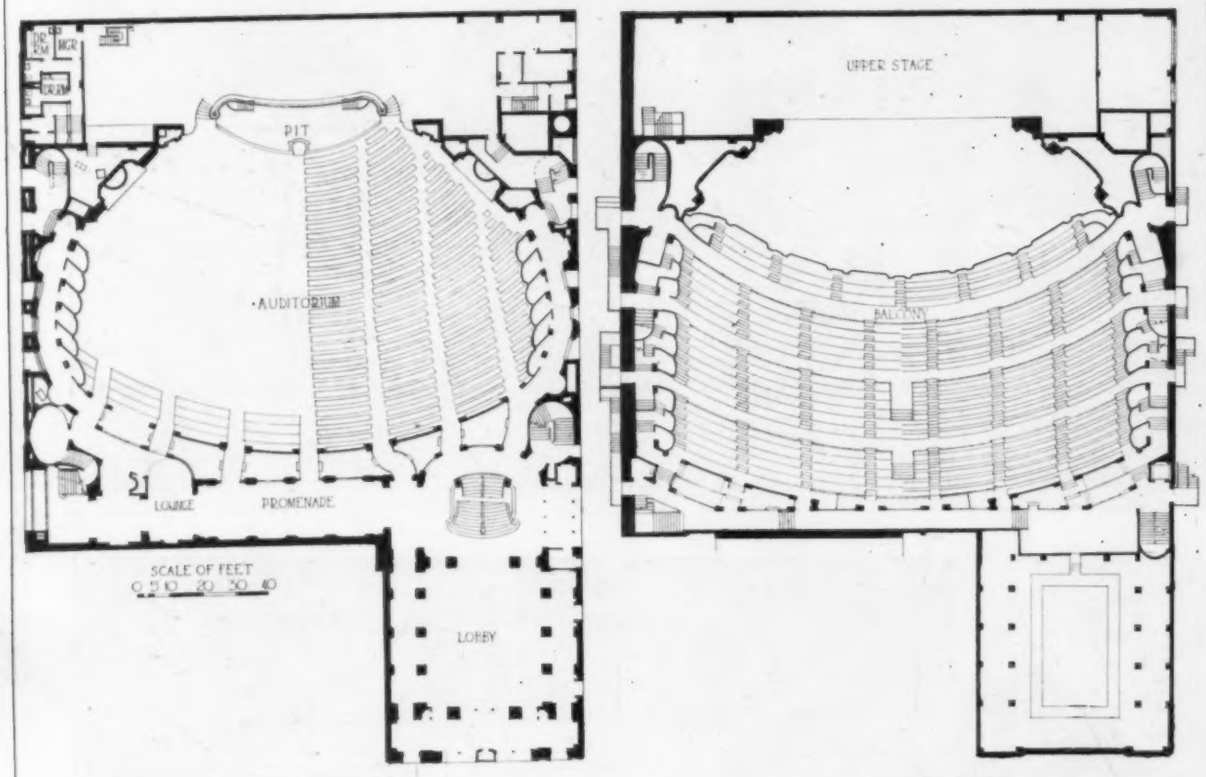
Architectural
Library

FRONT ELEVATION

ENTRANCE LOBBY

(Plans on Back)

THE CHICAGO THEATER, CHICAGO
C. W. & GEORGE L. RAPP, ARCHITECTS



ENTRANCE FLOOR

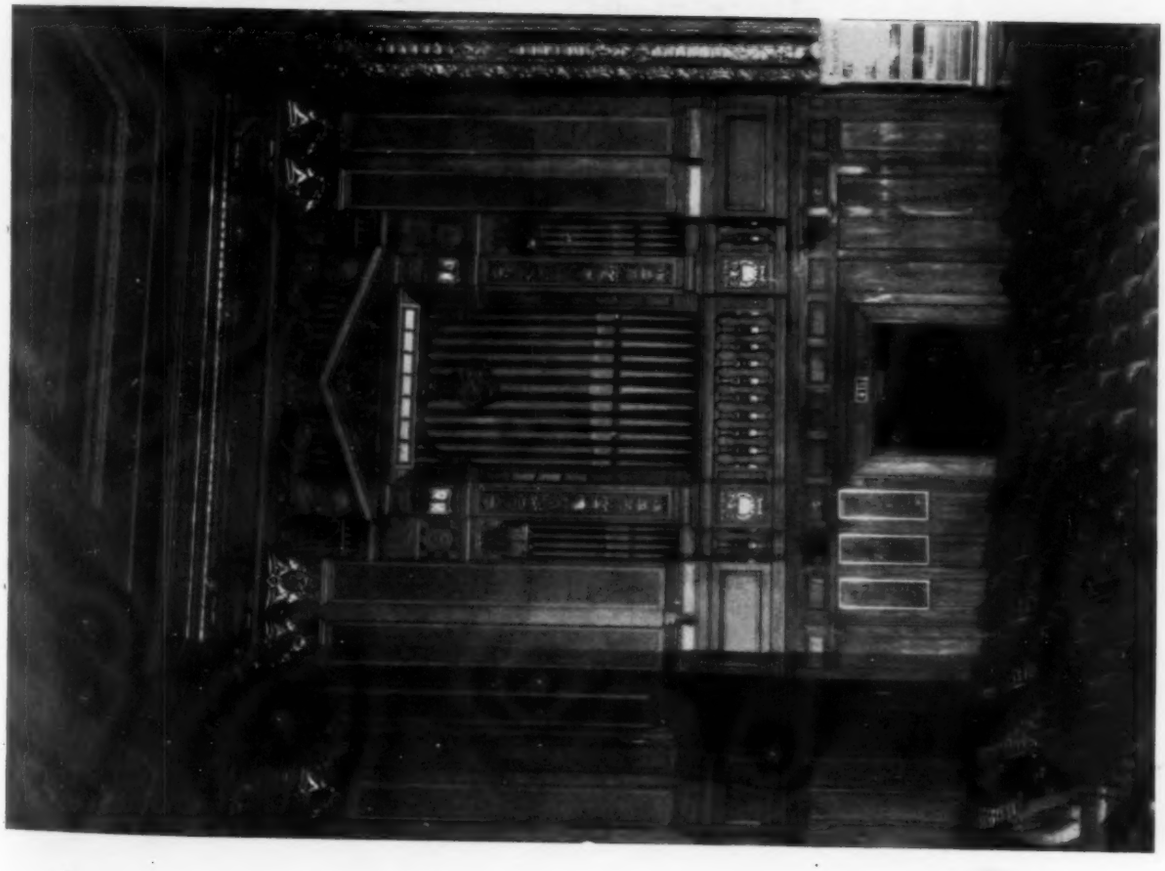
BALCONY FLOOR

PLANS, THE CHICAGO THEATER, CHICAGO

C. W. & GEORGE L. RAPP, ARCHITECTS

AUDITORIUM

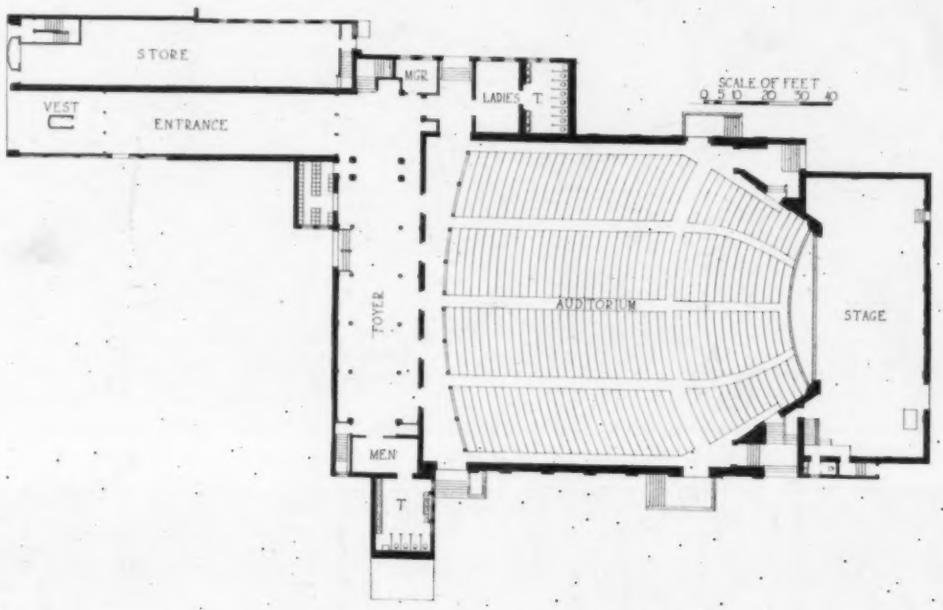
(Plans on Back)



ORGAN CASE

GORDON'S CENTRAL SQUARE THEATER, CAMBRIDGE, MASS.

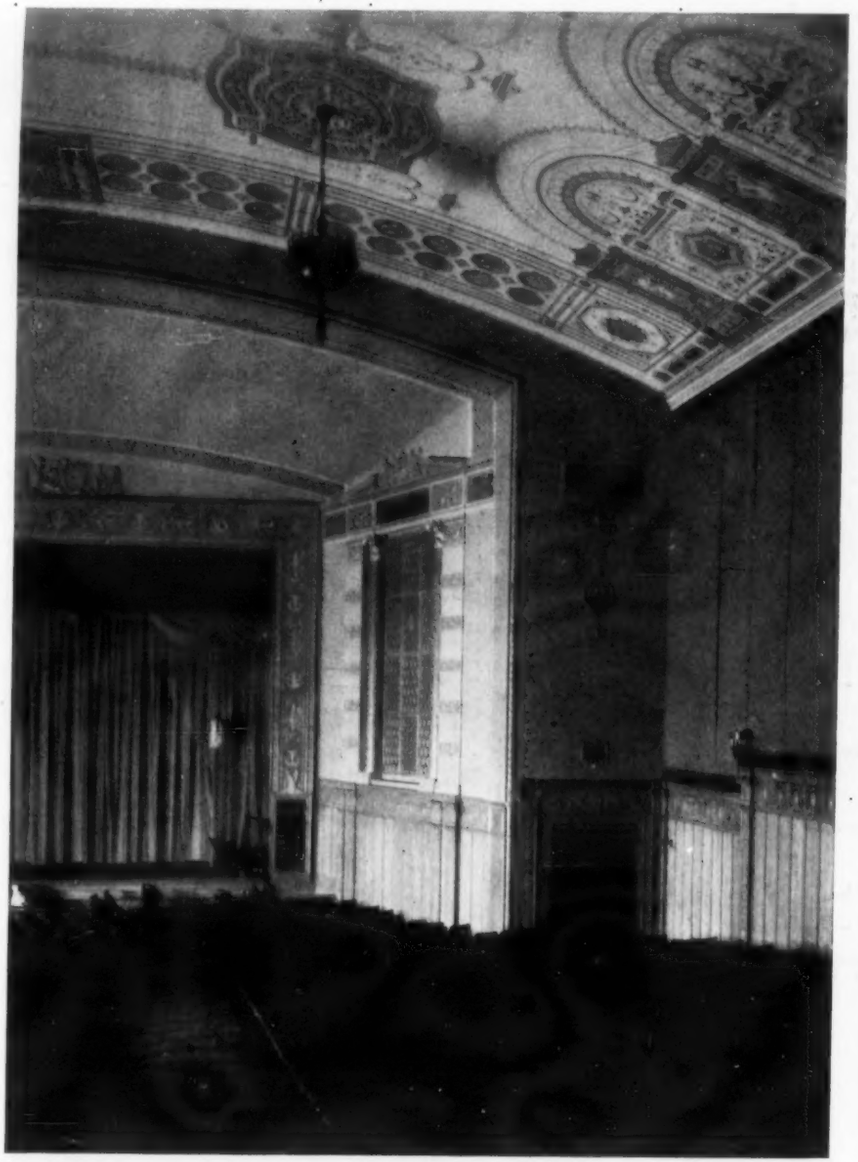
MOWLL & RAND, ARCHITECTS



MAIN FLOOR

PLANS, THE CENTRAL SQUARE THEATER, CAMBRIDGE, MASS.

MOWLL & RAND, ARCHITECTS



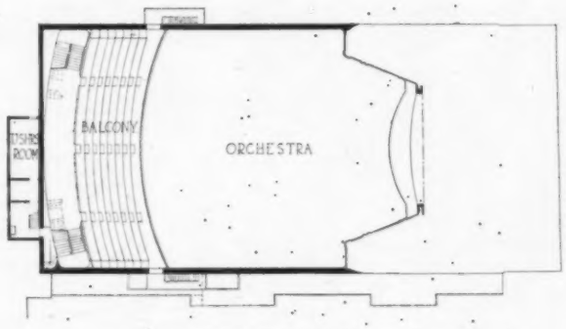
AUDITORIUM

ENTRANCE LOBBY

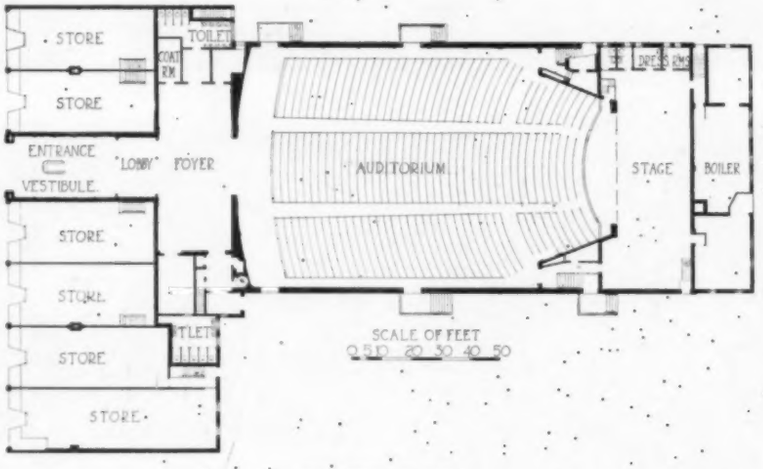
(Plans on Back)

GORDON'S CAPITOL THEATER, ALLSTON, MASS.

MOWLL & RAND, ARCHITECTS



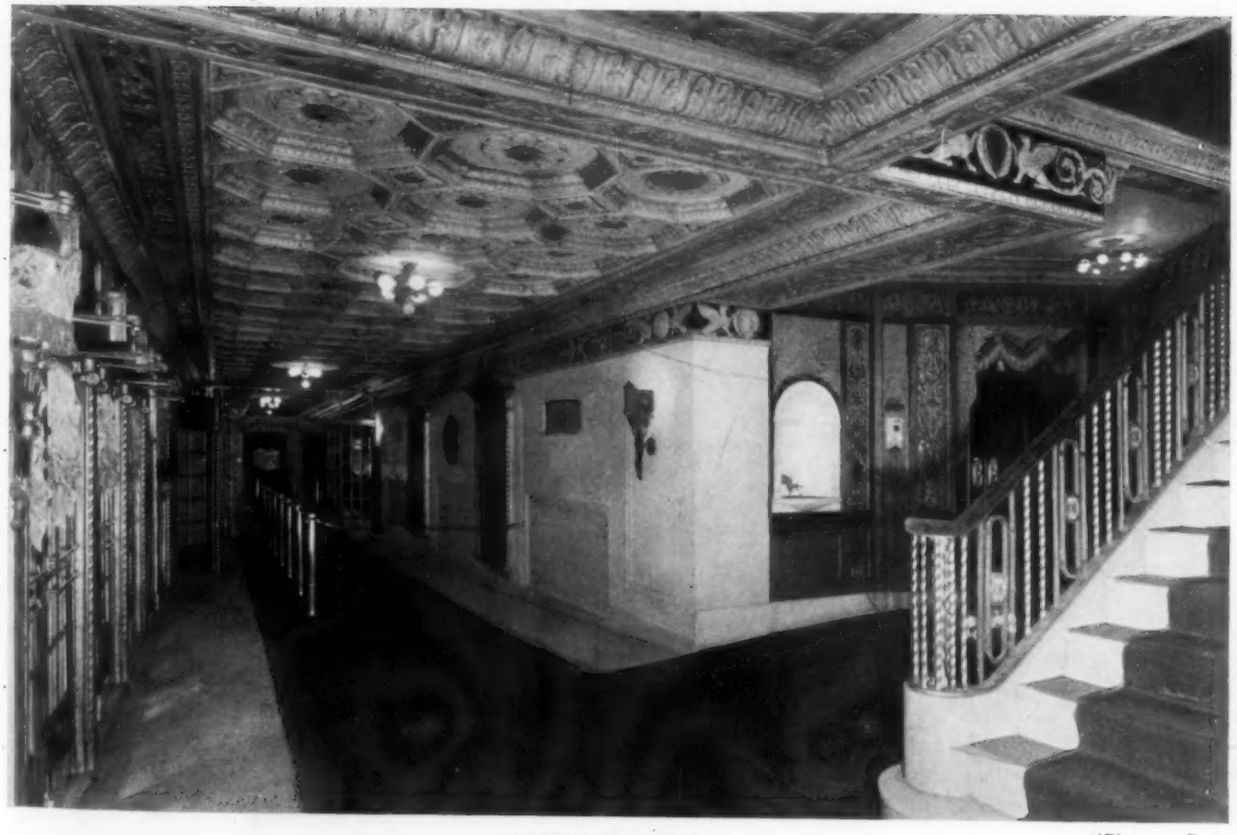
BALCONY FLOOR



GROUND FLOOR

PLANS, THE CAPITOL THEATER, ALLSTON, MASS.
MOWLL & RAND, ARCHITECTS

DETAIL, WALL DECORATIONS IN GALLERY

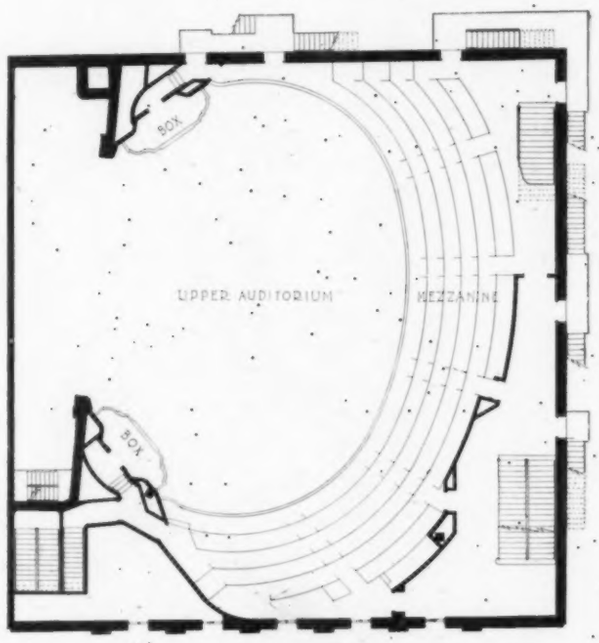


ENTRANCE LOBBY

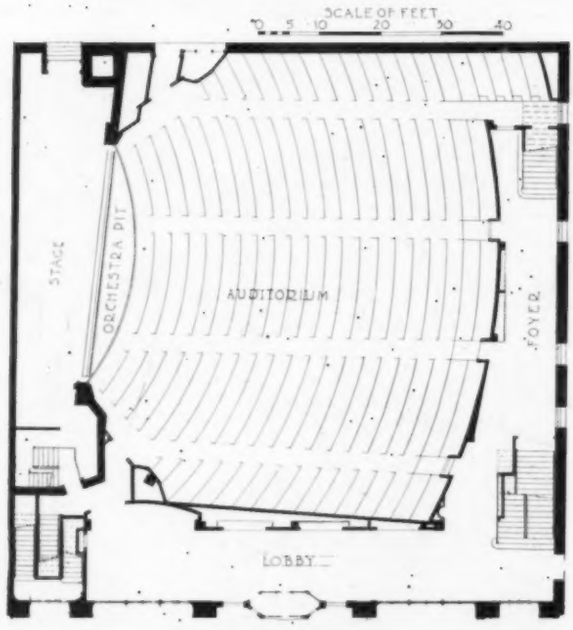
(Plans on Back)

THE ROOSEVELT THEATER, CHICAGO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS



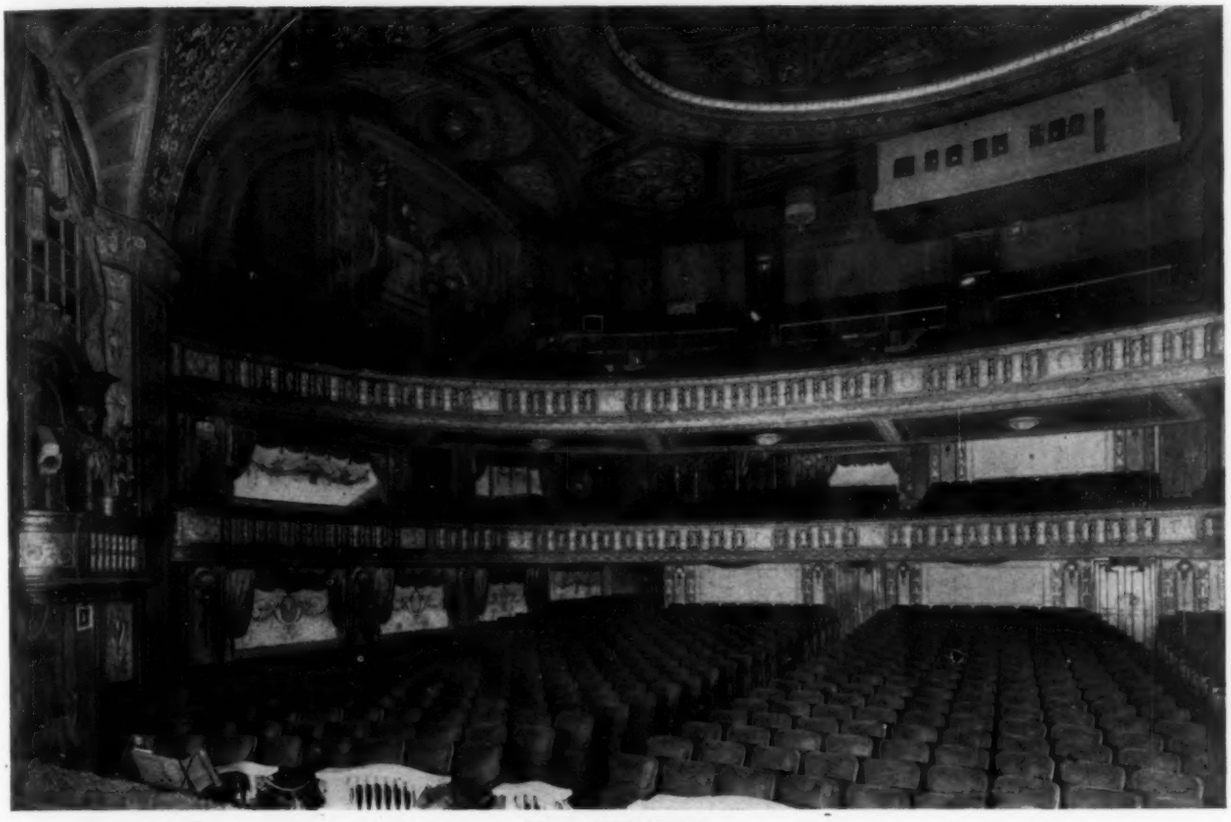
MEZZANINE FLOOR



MAIN FLOOR

PLANS, THE ROOSEVELT THEATER, CHICAGO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS



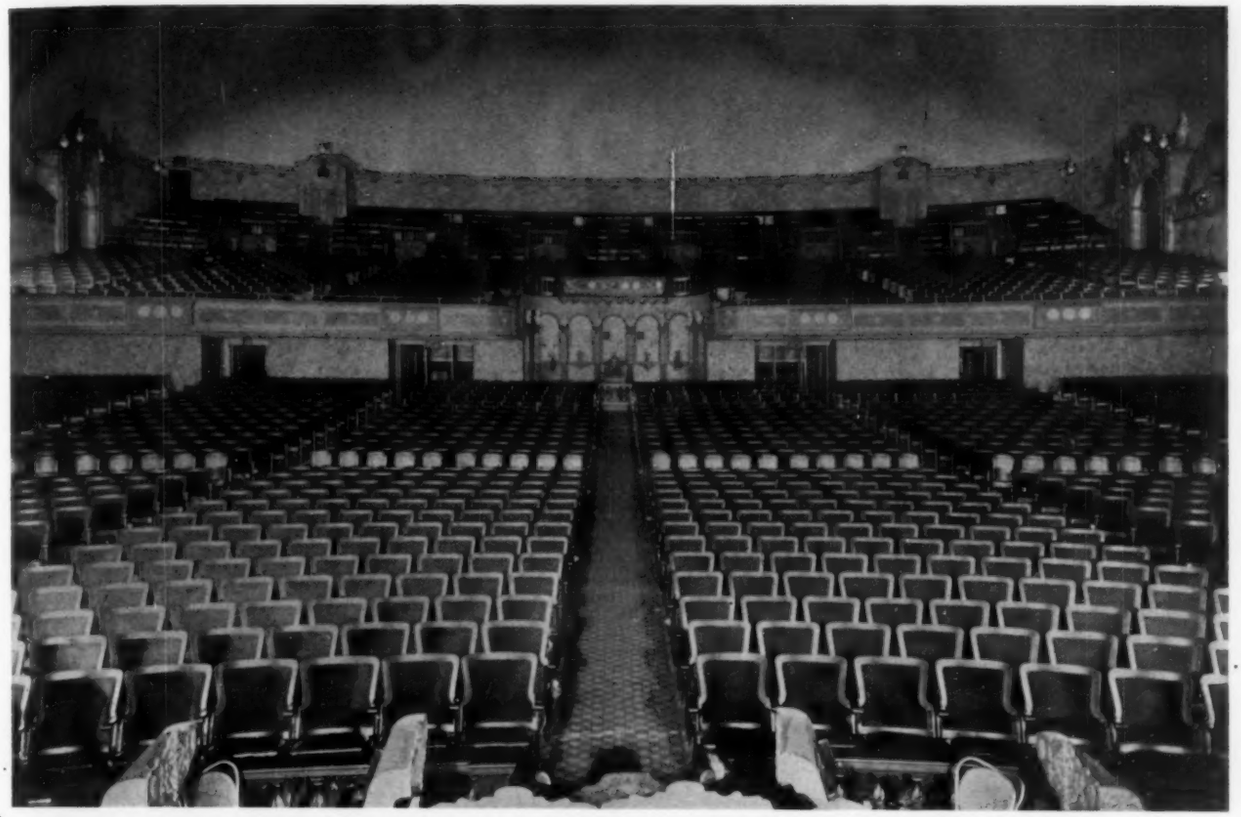
THE AUDITORIUM

THE STAGE FROM THE GALLERY

THE ROOSEVELT THEATER, CHICAGO

C. HOWARD CRANE AND KENNETH FRANZHEIM, ARCHITECTS

Architectural
Library



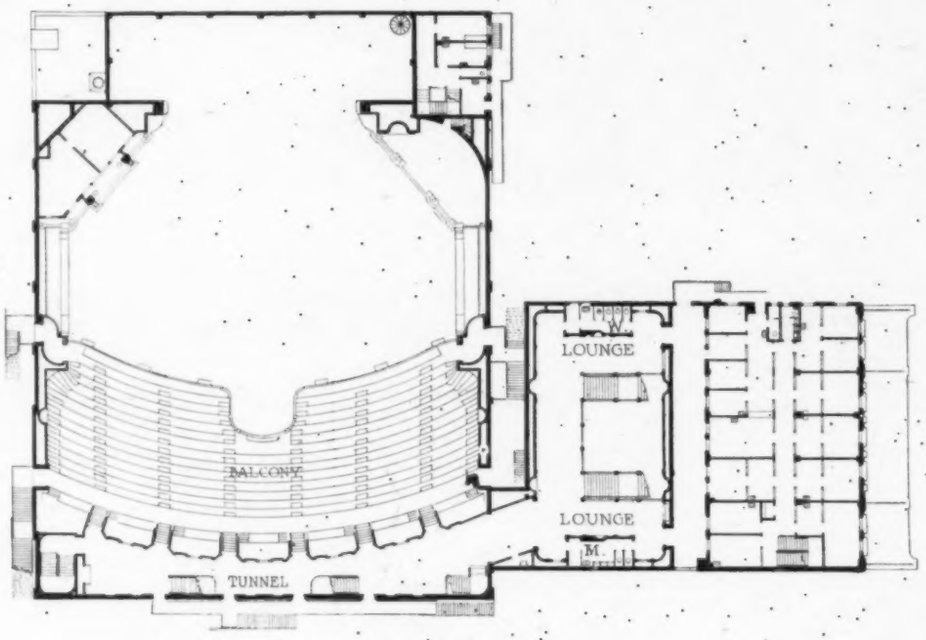
NOTE SUCCESSFUL SCREENING OF THE PROJECTION BOOTH AT THE REAR OF THE AUDITORIUM

THE SKYLINE TREATMENT OF THE CEILING PRODUCES AN UNUSUAL EFFECT

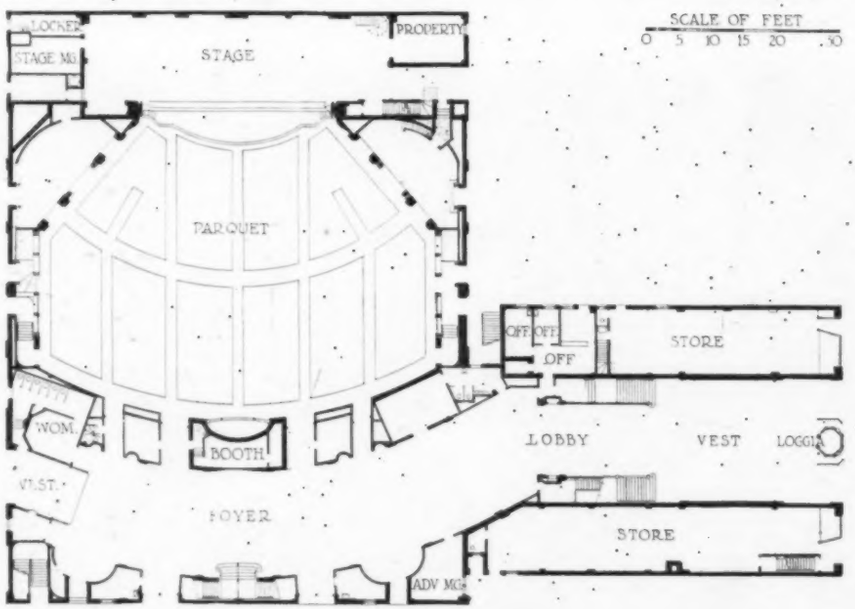
(Plans on Back)

THE CAPITOL THEATER, CHICAGO

JOHN EBERSON, ARCHITECT



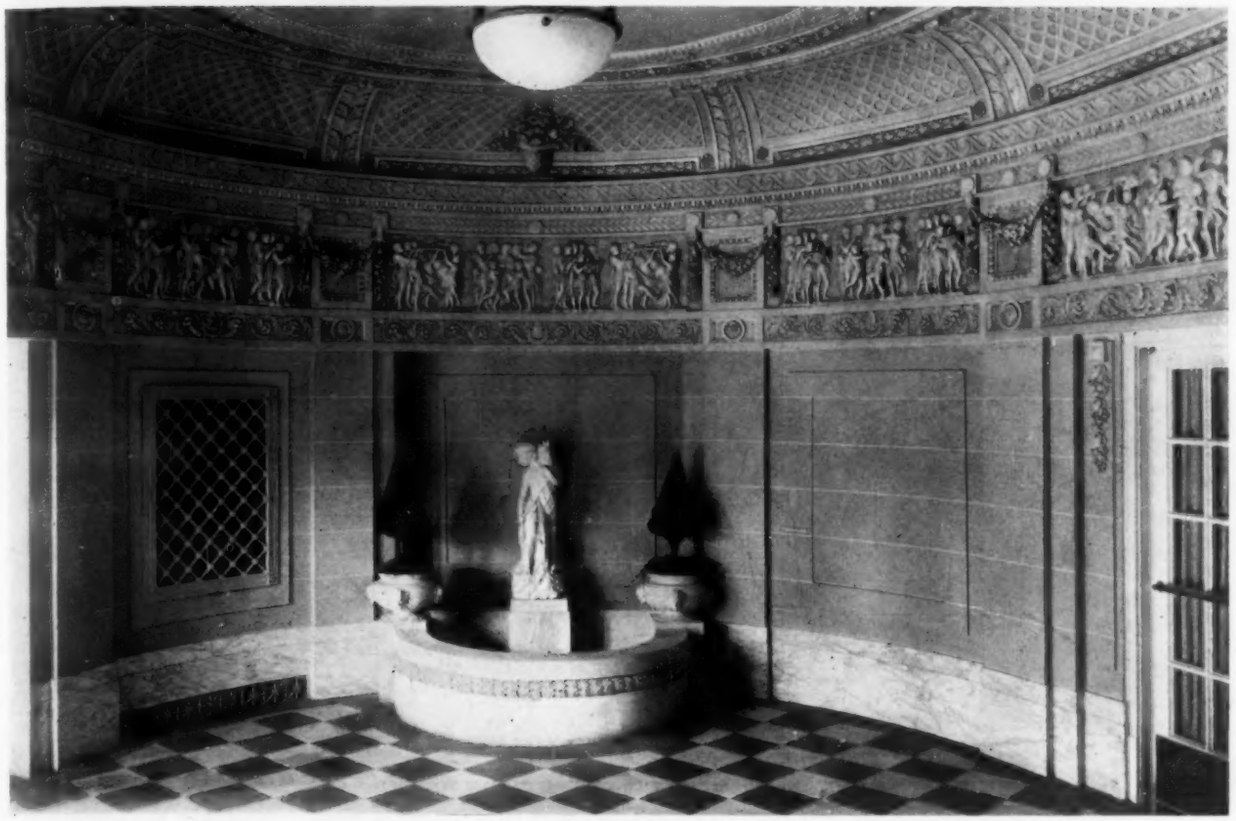
BALCONY FLOOR



MAIN FLOOR

PLANS, THE CAPITOL THEATER, CHICAGO

JOHN EBERSON, ARCHITECT



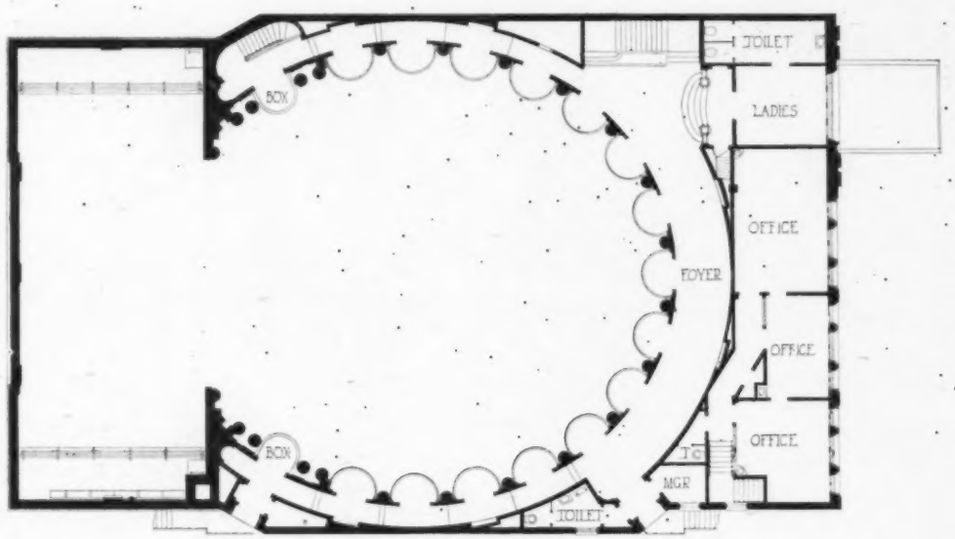
ENTRANCE LOBBY

A SUCCESSFUL AND UNUSUAL TREATMENT OF BOXES

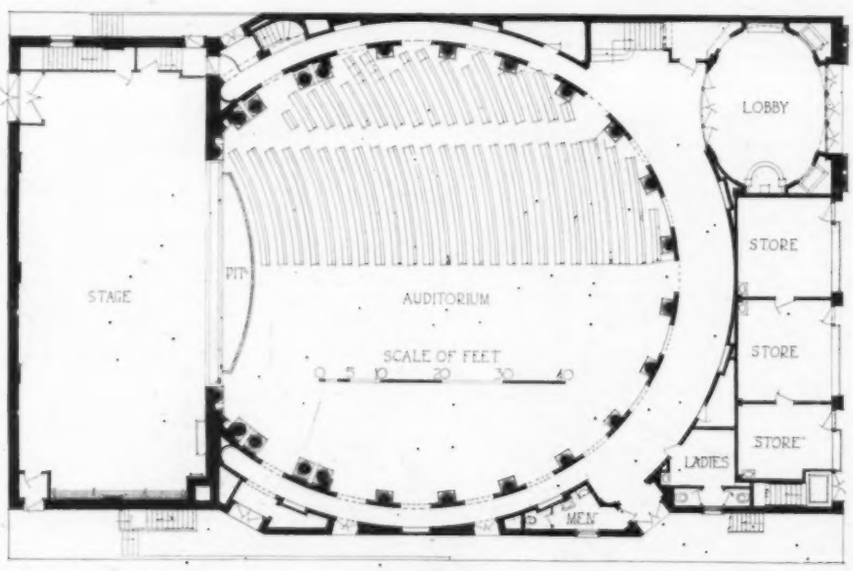
THE AL. RINGLING MEMORIAL THEATER, BARABOO, WIS.

C. W. & GEORGE L. RAPP, ARCHITECTS

(Plans on Back)



ENTRESOL WITH BOXES



ENTRANCE FLOOR

PLANS, THE AL. RINGLING MEMORIAL THEATER, BARABOO, WIS.

C. W. & GEORGE L. RAPP, ARCHITECTS

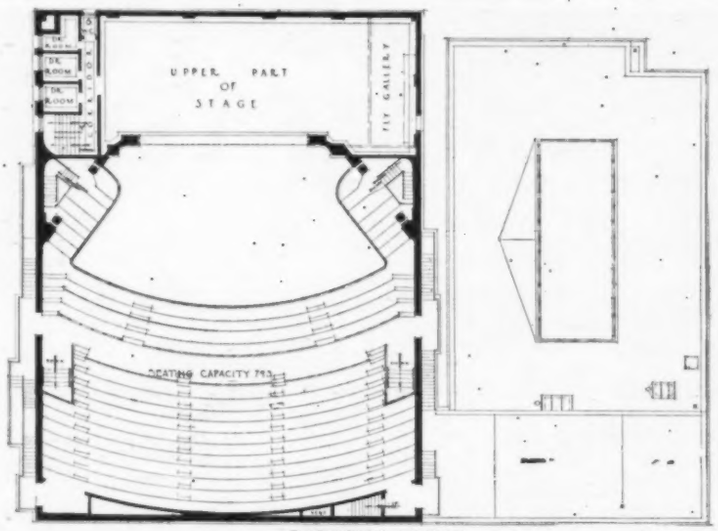
MAIN ENTRANCE

AUDITORIUM

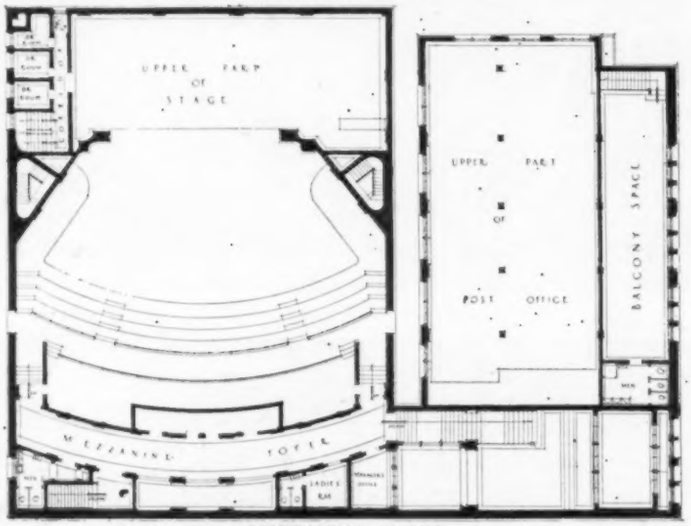
(Plans on Back)

THE BROADWAY THEATER, SOUTH BOSTON.

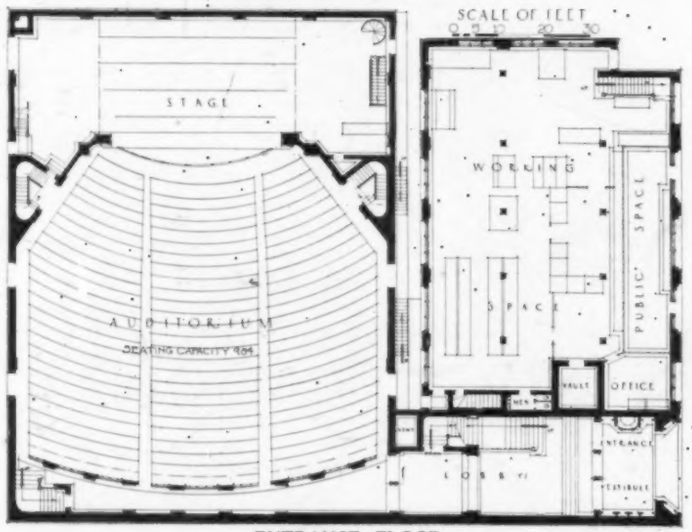
BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS



BALCONY FLOOR



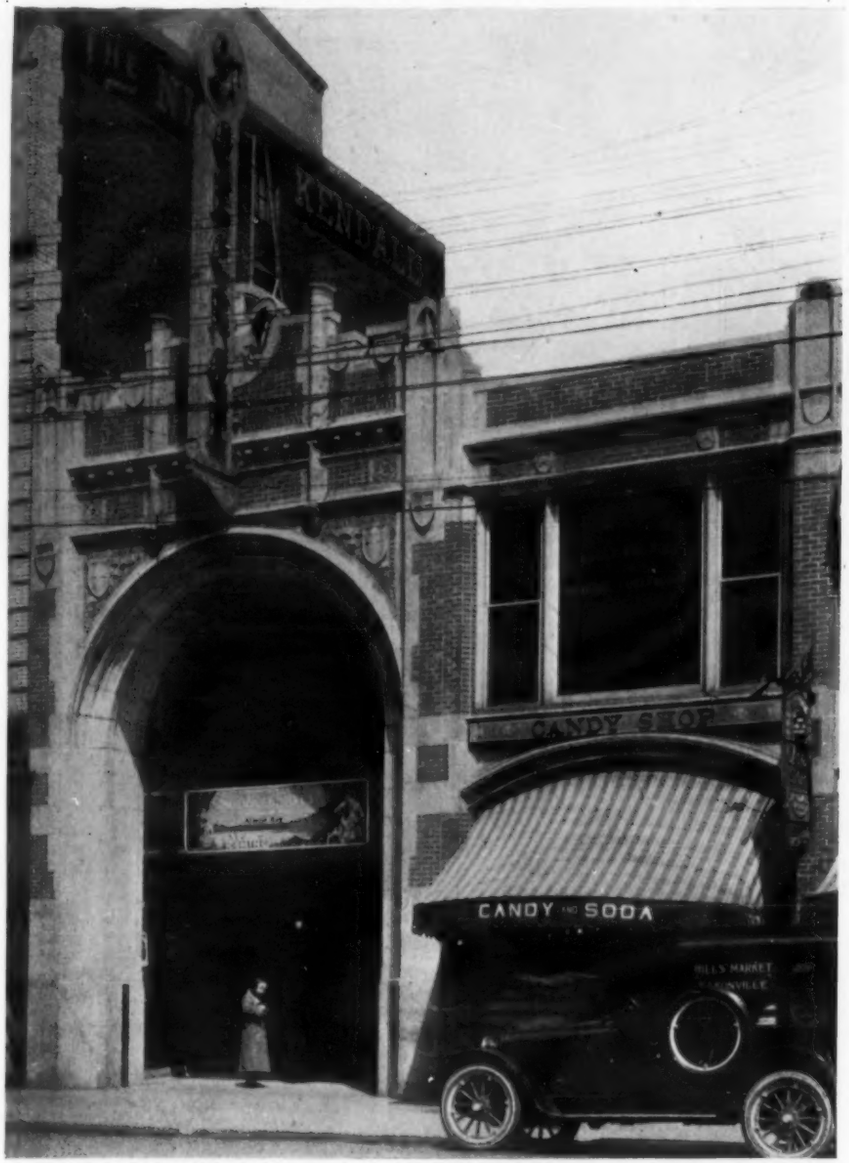
MEZZANINE FLOOR



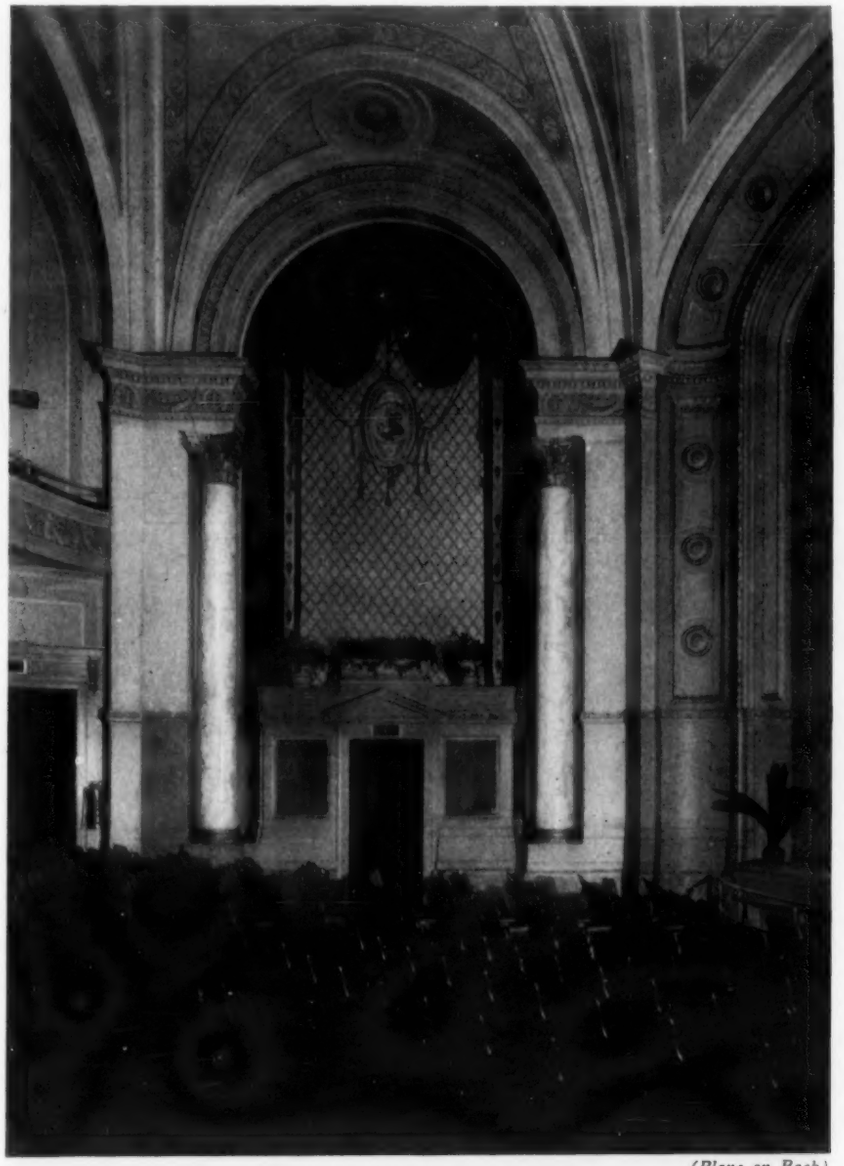
ENTRANCE FLOOR

PLANS, THE BROADWAY THEATER, SOUTH BOSTON

BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS



MAIN ENTRANCE

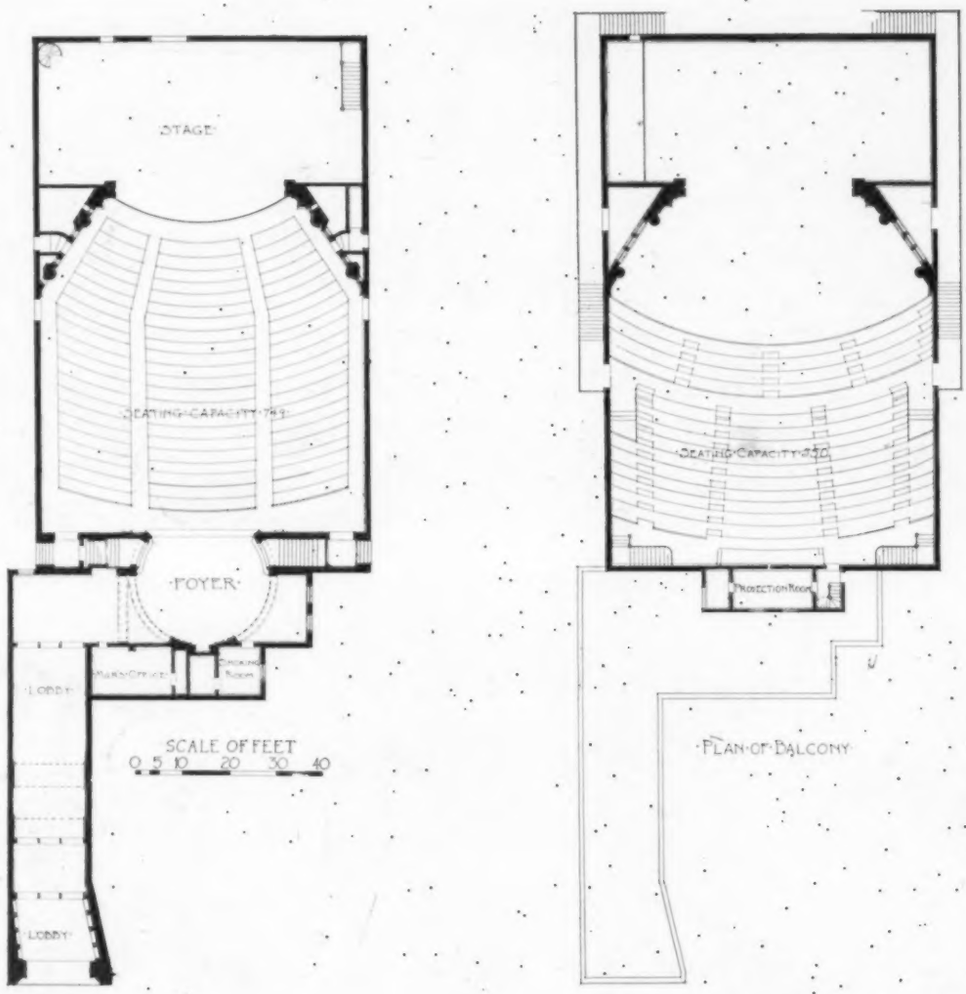


ORGAN SCREEN AND PROSCENIUM

(Plans on Back)

THE ST. GEORGE THEATER, FRAMINGHAM, MASS.

BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS



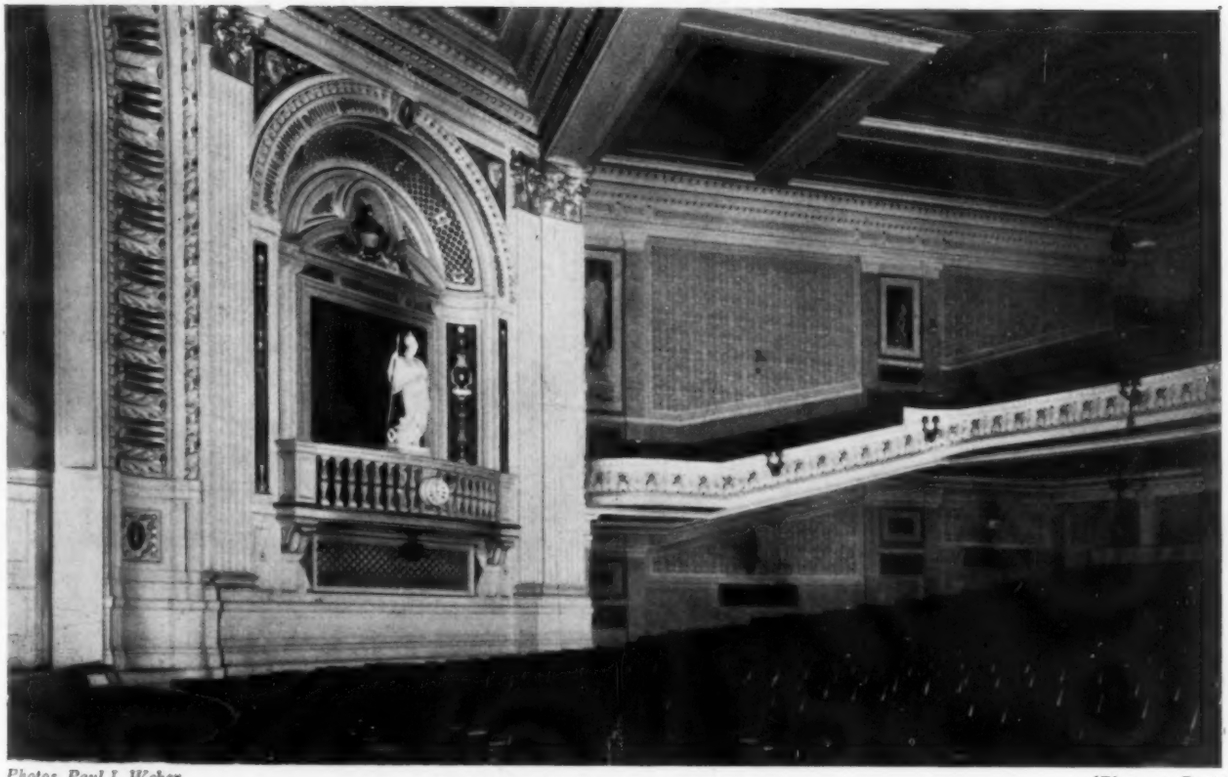
ENTRANCE FLOOR

BALCONY FLOOR

PLANS, THE ST. GEORGE THEATER, FRAMINGHAM, MASS.

BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS

FRONT ELEVATION



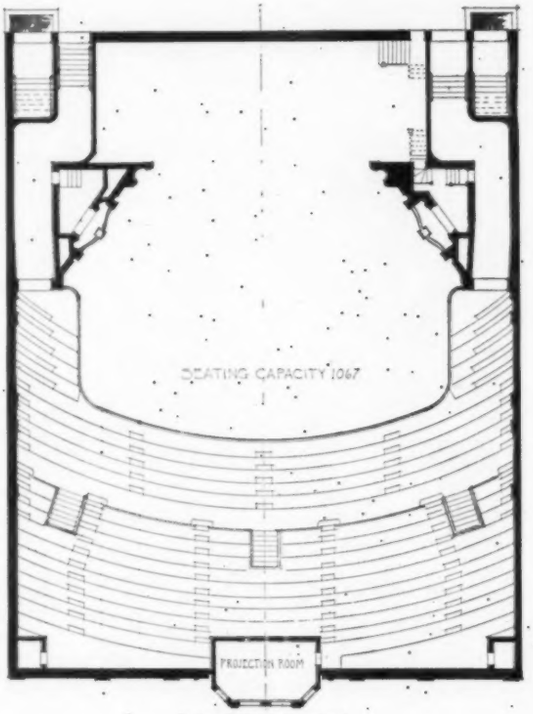
Photos. Paul J. Weber

ORGAN SCREEN AND PROSCENIUM

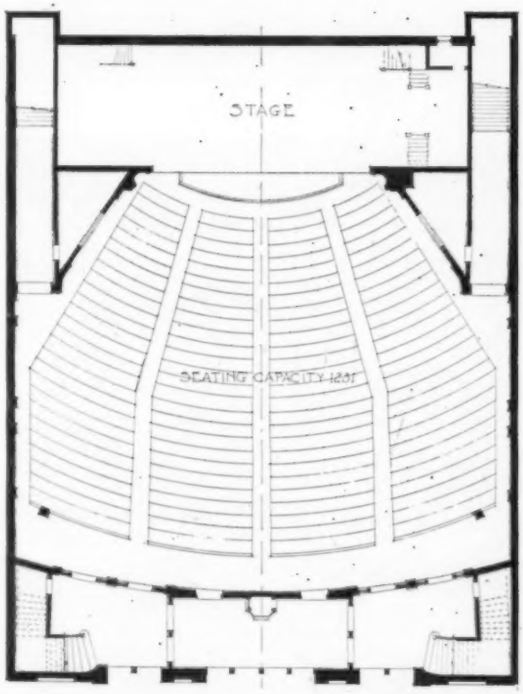
(Plans on Back)

THE PALACE THEATER, LAWRENCE, MASS.

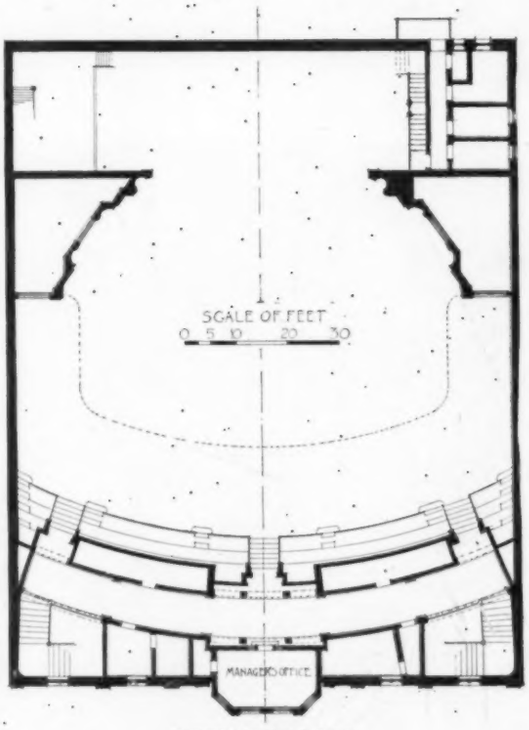
BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS



BALCONY FLOOR



ENTRANCE FLOOR



MEZZANINE LOGE

PLANS, THE PALACE THEATER, LAWRENCE, MASS.

BLACKALL, CLAPP & WHITTEMORE, ARCHITECTS

Ventilating and Cooling of Motion Picture Theaters

By D. D. KIMBALL, *Consulting Engineer, New York*

IT is to be noted that the title chosen for this paper does not specifically include heating. In the case of the auditorium, or theater proper, the heating problem exists only in its simplest form, and is usually solved by placing a number of radiators adjacent to entrance and exit doors, such radiators being placed in recesses covered with grilles in number sufficient to offset the cooling effect of the walls and doors. The amount of radiation thus determined will usually be found to be sufficient to keep the theater warmed to about 50° in winter.

There are two points in theater buildings at which ample heating is most essential. The first of these is at the main entrance lobby and foyer, at which the maximum amount of heat possible must be provided to prevent cold air blowing into the theater through the constant opening of doors, which, unless the lobby is thoroughly warmed, will cause most objectionable drafts at the rear of the orchestra. Whenever possible the heating of the main entrance lobby should be accomplished by means of a separate fan system, supplying a volume of air equal to a change of the cubic contents of the entrance lobby and foyer once every one or two minutes. The most efficient method of introducing this heated air into the lobby is through grilles placed at each side of each entrance door. If, as is usual, there are two sets of doors into the lobby, both sets of doors should be thus equipped. In this way the cold entering air is immediately warmed to a sufficient temperature to keep the lobby warmed. A second row of grilles at the second row of doors will provide any additional heat necessary, so that by the time the air entering through the doors reaches the theater, it will be thoroughly warmed, and thus no objectionable drafts will be experienced by anyone in the theater. The heating coils to warm this air should be capable of raising the temperature of the air entering the lobby through the door grilles to at least 120°. In some cases the grilles at the sides of the second, or interior, row of doors are utilized to draw air to the inlet of the fan, by which means recirculation is accomplished, and fewer heating coils at the fan are required. Direct radiation should be provided in the lobby in any event, however, to keep the space warm at times other than during performances without the necessity of running the fan. Another method of warming lobbies is to provide direct radiation in recesses in the lobby and to pass air from the theater fresh air supply system over these radiators into the lobby. Use of either of these methods presupposes some air pressure in the lobby to counteract the outside air pressure blowing in at the doors, but the method first suggested accomplishes this purpose to a greater degree in that the air pressure blowing into the lobby may be increased independently of the pressure at which the air is blown into the theater proper under usual conditions. Thus are treated the conditions at doors.

The second point at which direct radiation is of greatest importance is on the stage. Rarely will the amount of radiation here required be for less than 1,000 square feet, and frequently it will be for as much as 2,000 square feet. If the stage is not thoroughly warmed the front portion of the orchestra will always be cold, and this frequently occurs because of lack of sufficient radiation on the stage. In all cases the radiation should be thoroughly distributed, and an ample portion thereof should be placed near doors or entrances from outside to the stage. Where the stage walls are high, it is desirable that the radiation should be divided and placed at two or three levels on the exposed walls,—one-third about 6 feet above the stage floor, one-third about 24 feet above the floor, and the remaining one-third from 40 to 50 feet above the floor. Additional radiation should be provided in the form of a pipe coil in the skylight over the stage for efficient heating.

If the front of the stage over the proscenium opening extends well above the roof over the theater proper, a coil should be placed on this wall directly over the proscenium opening in the manner indicated in one of the illustrations herewith. Dressing rooms, retiring rooms, and other auxiliary rooms will require direct radiation sufficient to heat these rooms to 70°.

The heating boilers may be of any suitable type, but they should be selected of very ample capacity because of the intermittent operation of the heating system and the large demand made upon the boilers by the ventilating system. For larger theaters the fire box type of boilers is especially adaptable, but for small theaters cast iron sectional boilers may sometimes be used. The boiler, or boilers, should not be placed under the theater proper, the stage, dressing rooms, or lobbies, entrance, exits, etc.

The heating installation may consist of a gravity two-pipe system, but the vacuum return line system is preferable because it is quicker in operation, more efficient, and more economical in fuel consumption.

The piping system should be so divided that the different departments of the building may be served independently. The division of heating mains should be substantially in some such manner as this:

One set of mains for the theater proper.
" " " " " " lobbies.
" " " " " " stage.
" " " " " " dressing rooms.
" " " " " " store and offices, if such are included.
" " " " " " hot water storage tank.
" " " " " " house and sprinkler tanks of all kinds.

Each set of mains should be valved at, and be run from, the main boiler header. Mains for the stage

and dressing rooms are sometimes combined in one system, and sometimes the mains for stores and lobbies are similarly combined to some advantage.

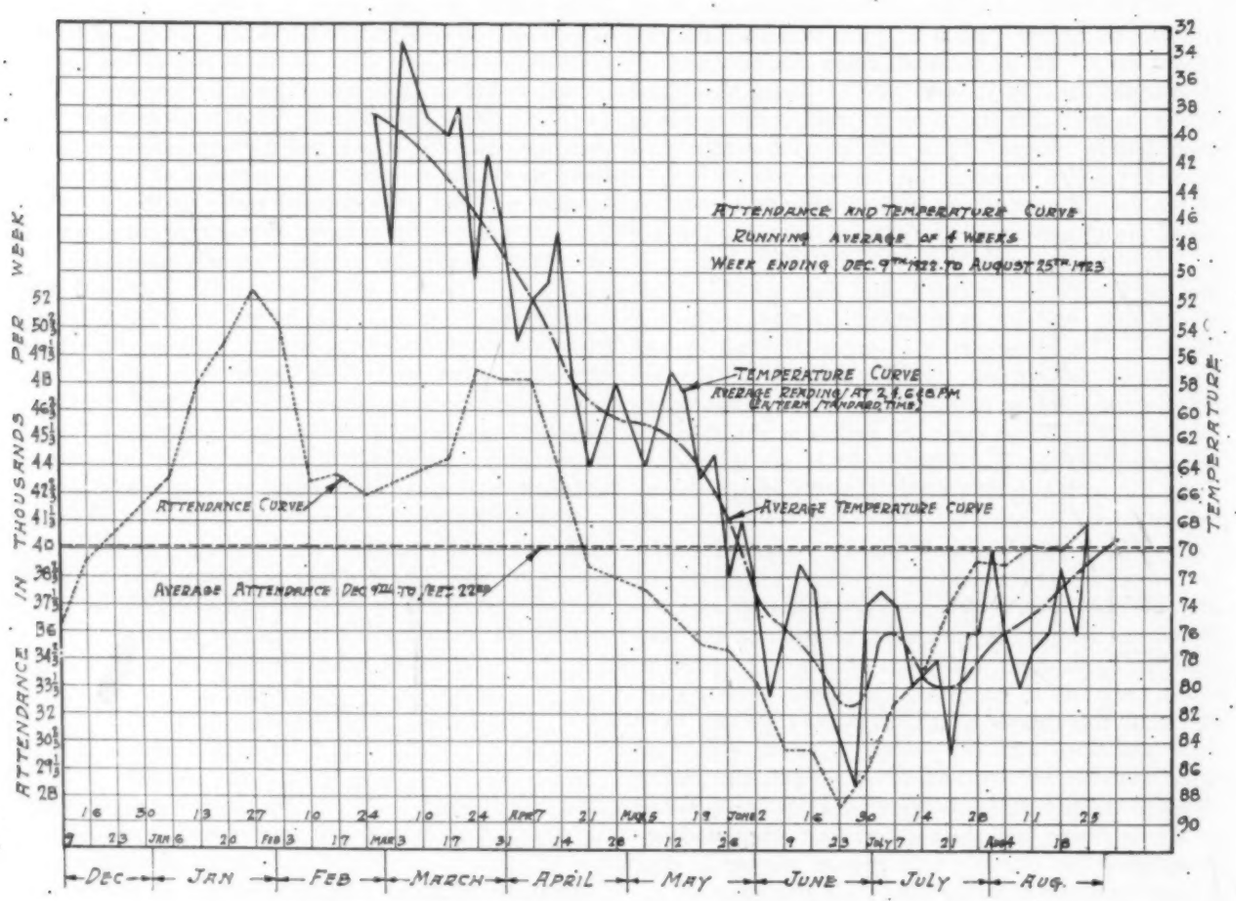
The vacuum return line heating installation simplifies this division of mains in that the return main can be a common return for the separate piping systems already described. The vacuum return pumps of a vacuum return line system should be automatically controlled in their operation, and should be installed in duplicate so as to insure continuity of operation of the entire heating system.

Because of the extensive nature of the piping system, all heating mains should be covered with a high grade of insulating material. The boiler and smoke pipes should be covered with similar material over a 1-inch air space to give necessary protection.

It has already been said that warming the theater proper, that is the auditorium, does not involve a heating problem. The fact of the matter is that this is really a de-heating problem, that is, the problem is that of taking off the heat and moisture (and odors) from the occupants of the seats. This can be properly accomplished only by an adequate and complete ventilating system. Such a system is a complete system only when it includes a fresh air supply system and an exhaust system, both of these being mechanical. The distribution of the fresh air inlets and the exhaust outlets must be such as to insure the flushing of every portion of the theater.

The quantity of air supplied and removed by the ventilating system bears a direct relation to the number of persons whom the theater may accommodate. No thoroughly defined and generally accepted volumetric standard of air supply for theaters exists. With 10 cubic feet of air per minute per occupant supplied, the temperature of the air in passing through the theater will be raised from 11 to 14 degrees, which means that in order to keep the temperature of the theater at 70° or less the air must be introduced into the theater at a temperature as low as from 55 to 60°. Especially when the air is introduced into the theater through the floor, this low temperature of the entering air will cause objectionable chilling of the occupants of the seats, with consequent complaints of drafts. Hence a supply of air limited to 10 cubic feet of air per person per minute is found to be too small to give satisfactory ventilation. Fifteen cubic feet of air per person per minute is the least that may be safely used, and 20 cubic feet provides only a good and generally satisfactory result in ventilation. Twenty-five cubic feet is the desirable standard, and in some cases 30 cubic feet of air per occupant per minute.

The attempt to make a single supply fan, or a single exhaust fan, or both, serve the entire building is wrong in principle and in practice. The fans



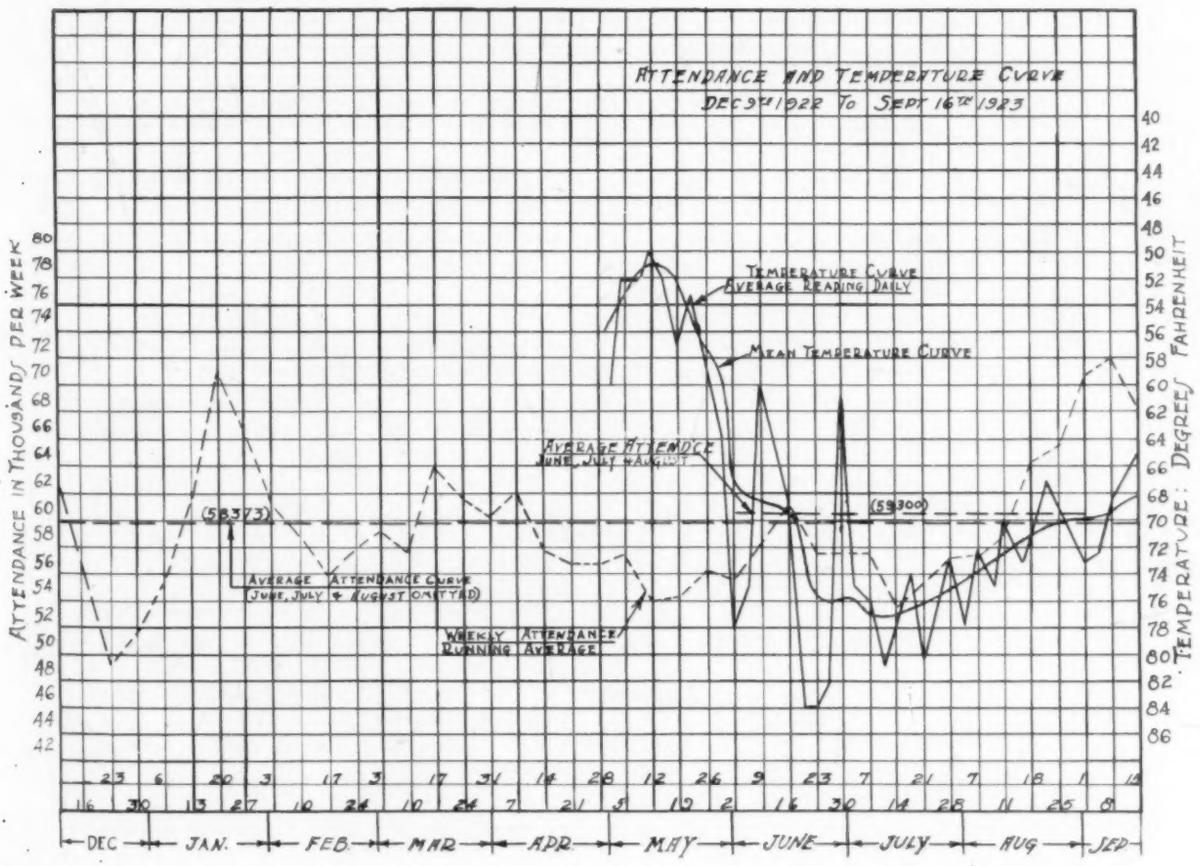
Outdoor Temperature and Attendance Record of a Theater Artificially Cooled

which serve the theater proper should not be used to serve any other portion of the building. Separate fans should be provided for the toilets and retiring rooms, for the lobby, for the picture machine booth, and for other special rooms, if any such there are.

A great deal has been written upon the question of upward versus downward ventilation, that is, whether the air should be introduced through the floor and be exhausted through the ceiling, or be introduced through the ceiling and be exhausted through the floor. There is a very logical and practical explanation of the better results obtained with the downward system. Theater ventilation is, as has been said, at all times, a problem of de-heating or cooling, since its real purpose, quite aside from that of supplying fresh air and of providing air movement, is to remove the heat and moisture given off by the occupants of the theater. To do this, while maintaining a theater temperature of approximately 70°, that volume of air customarily used for ventilation must be admitted to the theater 11 to 14 degrees below the desired theater temperature during the winter, and with a greater temperature difference, if possible, in the summer. Admitted through the floor, this cool air strikes the feet and lower limbs of those in the seats, causing discomfort and complaints in proportion as the general temperature of the theater is kept down to a proper degree. Admitted to the theater through the ceiling, the air gradually picks up the heat increment and passes over the occupants of the seats at the correct temperature, causing no complaints. This method of air supply will provide a uniformity of temperature in the theater which may be assured by no other.

The theory has been advanced that the downward flow of the air supplied is contrary to the upward force given to the air by the heat from the people. Compared with the moving force of the fans, the upward effect of the heat from the people is entirely negligible, so that the downward movement of the air suffers no handicap thereby. The advantages of the downward supply of fresh air become increasingly important if a cooling installation is made, because of the fact that the air frequently must be introduced at a relatively low temperature in hot weather, and were air of such a low temperature admitted through the floor serious complaint would be made of the chilling effect of this low temperature air. The fact must not be overlooked, however, that in some cases the construction of the theater is such that only the upward supply of air is possible within the limits of a reasonable cost of installation. In the case of the upward supply through the floor, dust (and particularly the dust brought in on the feet) is carried up into the air.

Especially when utilizing the upward supply of

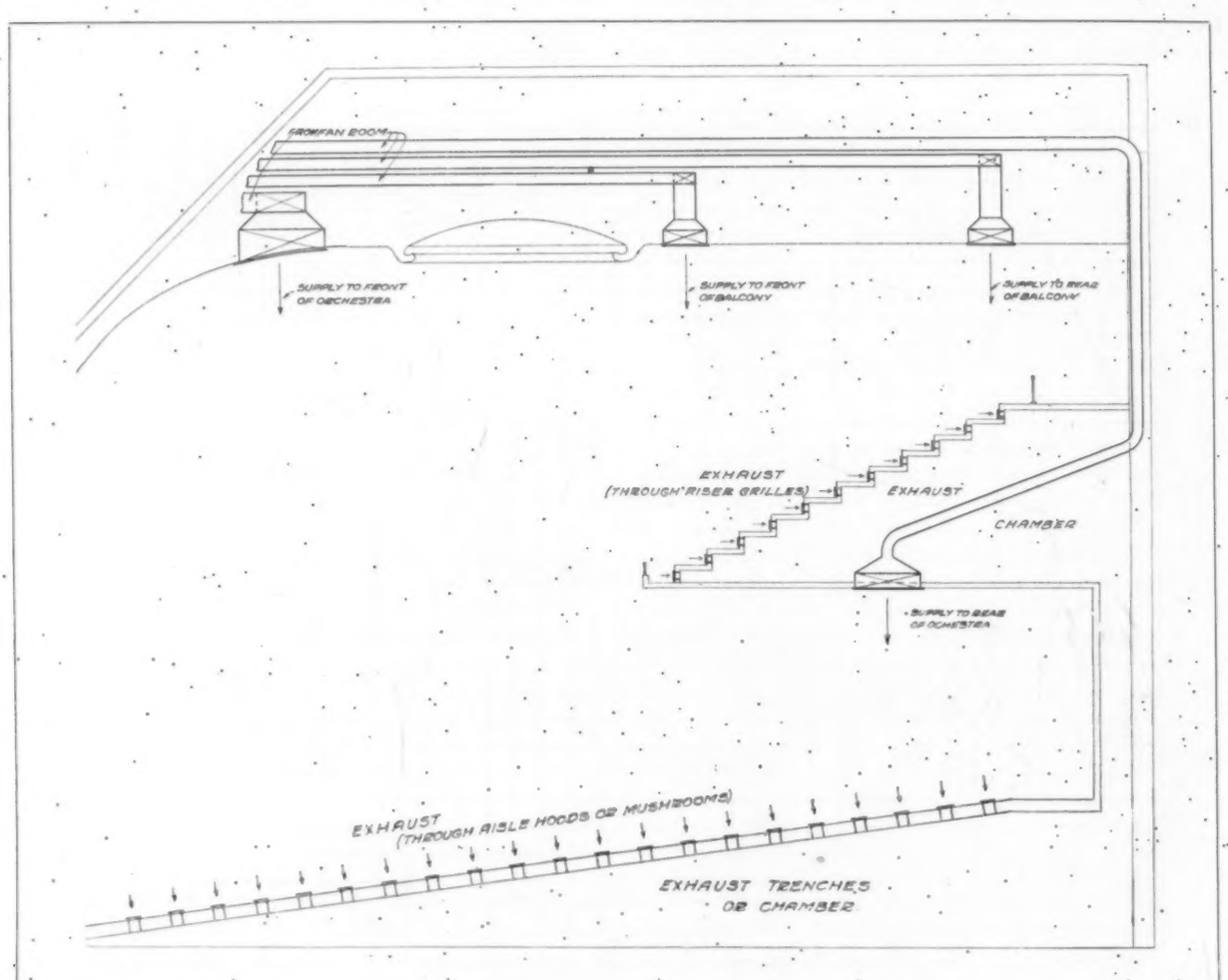


Outdoor Temperature and Attendance Record of a Theater Having No Cooling System

air, it will be found that there are varying temperature conditions in different sections of the theater. The front of the orchestra is invariably the coldest portion of the house. The rear of the orchestra, under the balcony, where the construction of the balcony provides a low ceiling, is a congested spot in which the temperature always builds up. Again, the front of the balcony will be found higher in temperature than the front of the orchestra, and the rear of the balcony will be found the warmest section in the house. It is highly desirable that the ventilating system should be so arranged that the air supplied to the different portions of the theater may be introduced at different temperatures. Manifestly, therefore, it is not possible to conduct the air directly to the seats at differing temperatures, but with a properly designed system and properly located inlets the air may be admitted to the theater directly over these various areas at sufficiently differing temperatures to maintain a practically uniform temperature throughout the theater. Without such division of the air supply system temperatures in theaters are frequently found to vary as much as from 12 to 18 degrees in different portions of the house, making some portions thereof almost unbearable. In the case of the Capitol Theater, New York, seating 5,400 people, the difference in temperature at any two points in the house never exceeds 2 degrees. The diagrammatic sketch here illustrates the method outlined herein for thus governing the temperatures of various portions of the theater.

The worst features of theater ventilation are closely allied to over-heating. Only an adequate and properly arranged system of automatic temperature regulation will prevent this. Such a system should be designed to control the temperature of the air admitted for ventilating purposes, and to control also the direct radiators in the important rooms.

At the present time nearly all theater ventilating installations are designed to make possible the recirculation of a considerable portion of the air used for ventilating the theater during cold weather. A properly designed recirculating system will fulfill every demand of good ventilation, and at the same time will reduce the coal consumption by 50 per cent as compared with the system operating with the entire supply of air taken at all times from the outside. The recirculated air, however, should be washed or be mechanically filtered to eliminate dust. During zero weather as much as 75 per cent of the



Method of Ventilating Rear of Orchestra and Balcony

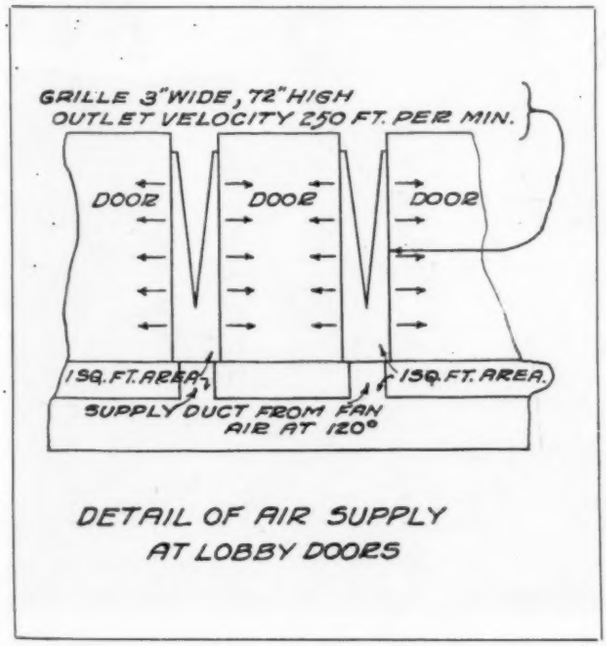
ventilating air may be recirculated, that is, be drawn from the theater itself, the proportion of recirculated air used being lessened as the outside temperature becomes warmer. Properly designed ventilating systems provide for the use of recirculated air in the simplest manner possible, and without a material increase in the cost of the installation.

In recent years many theater owners have installed so-called cooling systems, consisting merely of additional fans installed to supply a large volume of outside air during hot weather. Undoubtedly such installations accomplish much in the way of providing air movement and breezes in the theater during hot weather, and to this extent they are worth while; but they do not meet the demands of large theaters, since they do not actually lower by a degree the temperature in the theaters, nor do they even prevent a rise in temperature. Such installations constitute additional summer ventilating equipment, but they should not be called "cooling systems."

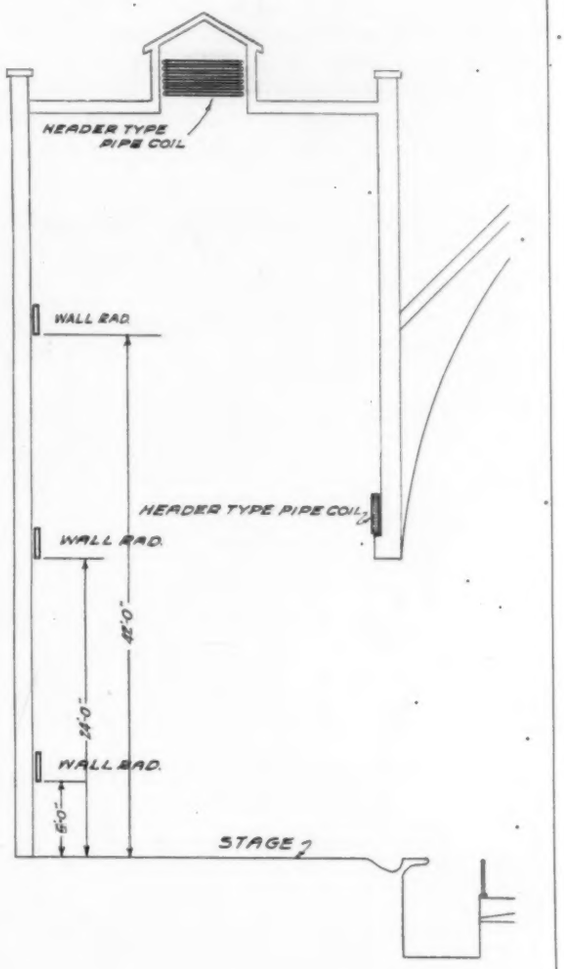
In some theaters the exhaust fans are so arranged that they may be used during hot weather to blow air into the theaters, that is the direction of the flow of air from the exhaust fans is reversed to provide an auxiliary summer air supply, thus supplementing the regular fresh air supply fan, leaving all of the air to be exhausted through the entrance lobby, exit doors, stage and elsewhere. This is often successful.

The demand for the actual cooling of theaters is growing by leaps and bounds. Two years ago there were but one or two thoroughly cooled theaters in the entire country. At the present time there are dozens such, and dozens more are installing such equipment. Two are being completed at this time in New York, others are contracted for, and the new Madison Square Garden, in New York, seating about 20,000 people, is to be provided with an air-cooling system which, under maximum conditions, will require the operation of 800 tons capacity of refrigerating plant equipment to secure good results.

Herewith there are shown two charts, the first of which represents the outdoor temperature record and the attendance record (during the same period) of a large theater. The temperature scale and curve are inverted, and a "running average" of three weeks' attendance is used. The cross-hatched area in this chart represents a loss of paid admissions in a single season, their value exceeding the entire cost of a refrigerating and cooling plant installation, plus operating costs. The second chart shows a similar record taken from a theater possessing a cooling installation, and shows an actual increase of attendance during the hottest days of the year over the average attendance for the remaining portion of the year. Such installations are increasing rapidly in number.



DETAIL OF AIR SUPPLY AT LOBBY DOORS



SECTION SHOWING DISPOSITION OF RADIATION ON THE STAGE

The only efficient, and the only real theater cooling system, the only one which will actually lower the temperature of the air in the theater, is that form of cooling installation which includes refrigerating plant equipment. The refrigerating installation required may cost from $12 to $15 per seat, and the adaptation of the ventilating plant to the cooling requirements may cost as much more. Nevertheless, such an installation may be counted upon to pay back the amount involved and the cost of operation within one or two seasons in the case of a motion picture theater, and within twice this time for others.

The considerable cost of such a cooling installation is due to the size and cost of the necessary refrigerating plant. Approximately 200 tons of refrigerating capacity will be required for a 3,000-seat house. The cooling installation requires, also, the inclusion of a de-humifying type of air washer, recirculating air ducts, special temperature and humidity regulating equipment, cork covering, water pumps, etc. The air admitted into the theater is cooled in passing through the de-humidifier, the water used in which is cooled by means of the refrigerating plant. A closed type of air cooler (strictly dry air cooling) may be used, if preferred, but this is unnecessarily expensive equipment.

The use of an ammonia refrigerating machine is manifestly undesirable in a theater building, unless it can be placed outside of and away from the building. CO_2 refrigerating machinery is largely used. This machinery has the advantage of being the simplest and least expensive of all to operate, and it requires the least space for installation. Such an equipment for a theater seating 3,000 people may be placed in a room 16 feet wide by 24 feet long and 10 feet high, its requirements being quite moderate.

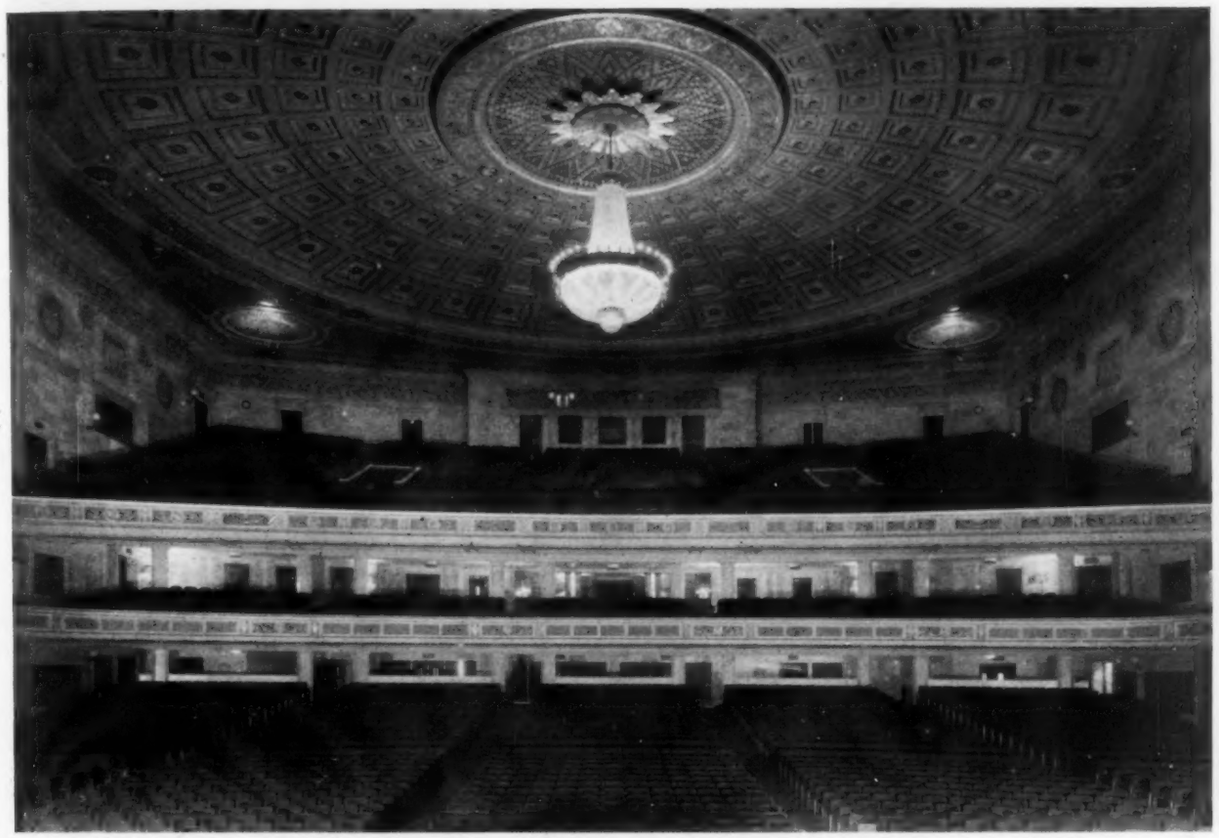
The refrigerating machinery is necessarily placed in the basement because of its weight, and in some cities the refrigerating equipment must be installed in an entirely separate room without any communication with the building proper, entered from outside.

No phase of ventilating engineering demands more skill and ingenuity than does the designing of theater ventilating equipment. A vast amount of money may be wasted by lack of ingenuity, skill or experience. Poorly designed, badly arranged, or cheap installations invariably mean unsatisfactory results, complaints, and wasted money. Better no ventilation installation at all than a cheap one, for the result is the same as actual ventilation is concerned. Generally speaking, any expenditure made for ventilation which represents less than $10 per seat may be considered wasted, and considerably more can be advantageously spent upon this work.

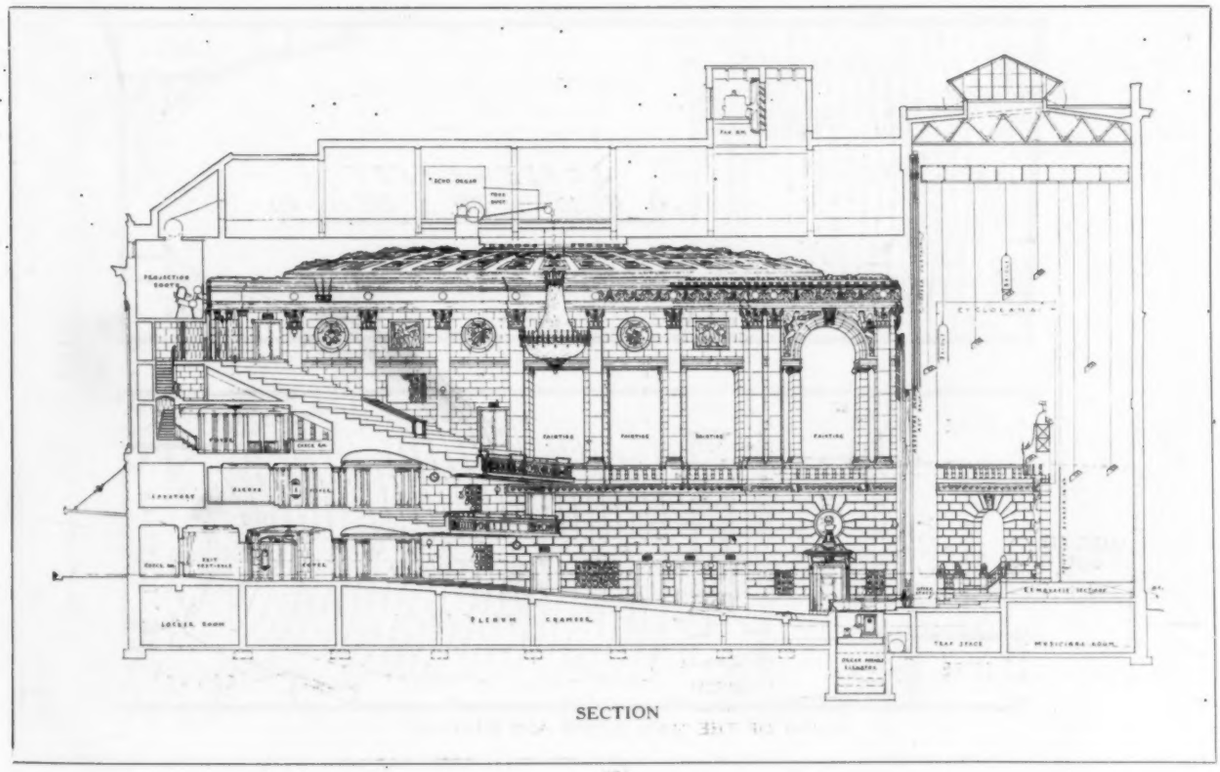
Entrance Lobby, Capitol Theater, St. Paul
C. W. and George L. Rapp, Architects

The Eastman Theater, Rochester

GORDON & KAELBER, Architects; McKIM, MEAD & WHITE, Associate Architects



AUDITORIUM OF THE EASTMAN THEATER, ROCHESTER

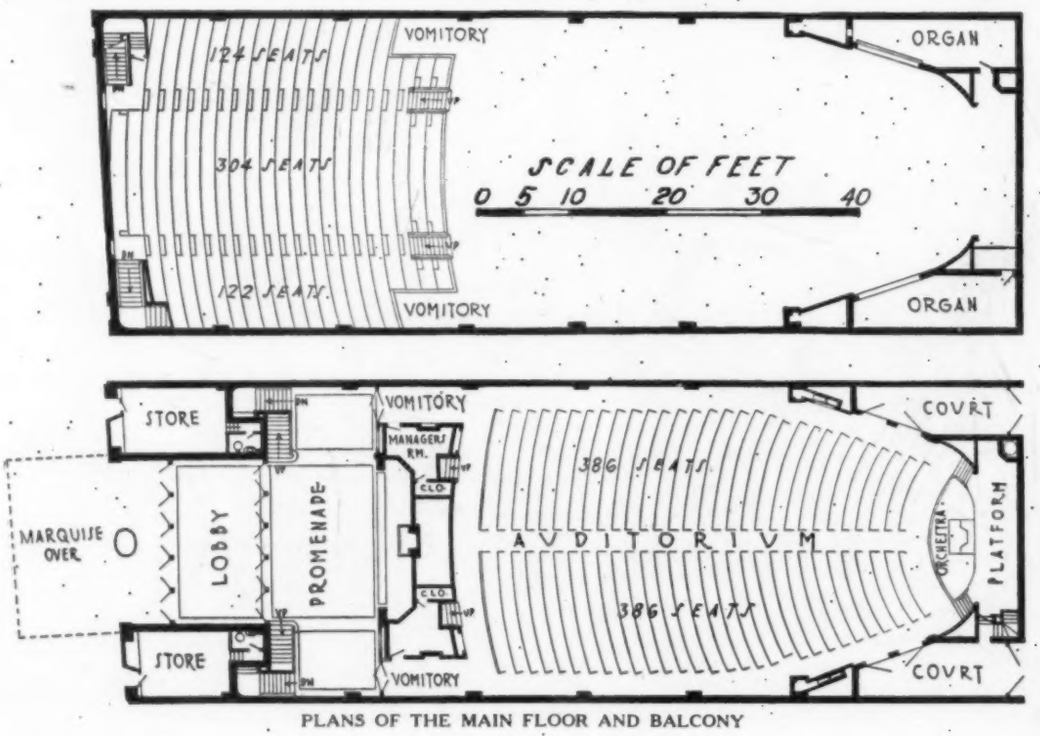


SECTION

The Piccadilly Theater, New York

NEWTON L. SCHLOSS AND JOSEPH ORLANDO, Associated Architects

THE AUDITORIUM SHOWS QUAINT PAINTINGS IN THE WALL PANELS



PLANS OF THE MAIN FLOOR AND BALCONY

Organ Installations in Theaters

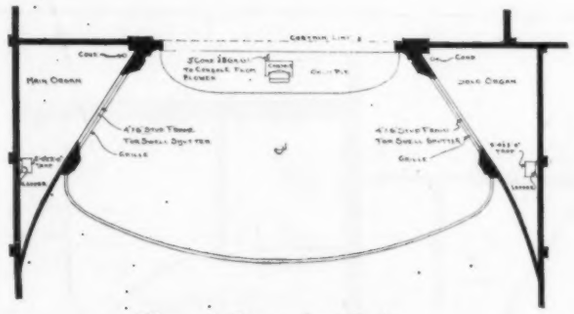
By ROBERT E. HALL, *Consulting Engineer, New York*

THE success of an organ in any theater is dependent to a very large extent on the proper installation of the instrument; the very finest organ may actually be a failure if improperly installed. The first essential in proper installation is location; the second is to have the proper openings through which the tone can come out into the auditorium, and the third is to have a sufficient amount of space so that the organ is not crowded. On the other hand, it is not wise to have too much space, although that error is seldom made in a modern theater. Most installations suffer from the lack of a proper amount of space for containing the organ.

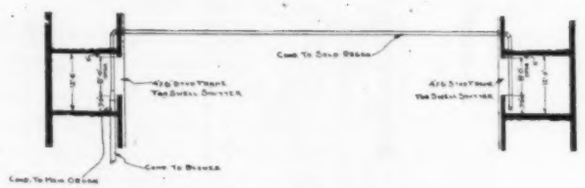
Naturally each theater presents its own special problem, but the subject can be covered in a general way, particularly where new theaters are being planned, if organ requirements are given thought at the time of the actual planning. It is well to keep in mind that practically all parts of the organ, such as chests, are rectangular in shape. Even though the chamber must, of necessity in many cases, be of triangular shape, these rectangular parts of the organ cannot be changed from their original form, so obviously there is likely to be some lost space in a triangular chamber, compared to the area required in a rectangular chamber. All modern organs today are enclosed in chambers with Venetian swell shades to control the expression. These chambers should be built so that they are as soundproof as possible, to enclose the tone, and then by means of the swell shades to give modulation and expression to the music. In the beginning of organ building, the organ was built out in the open and had no expression. It then was improved so that one portion of the organ —the swell organ—was under control, but today all theater organs to be successful must be entirely under expression control, for the music's enjoyment.

The best method of installation to be made in a theater is to have, in the case of a small organ, one chamber on one side of the house, and in the case of a larger organ, chambers at both sides of the proscenium arch, in the space that is usually occupied by the boxes. These chambers should preferably be located about 10 or 12 feet above the level of the stage, not too low to have the tone strike directly the people that are sitting in the front seats, and not too high to prevent the tone's getting under the balcony, if there is a balcony in the house. It is a well recognized fact that the rear seats on the first floor, under the balcony, are invariably those where it is most difficult to hear the music, but by properly placing the organ, this difficulty is overcome. Fig. I shows the installation planned as suggested,—at the sides of the proscenium arch, half on each side.

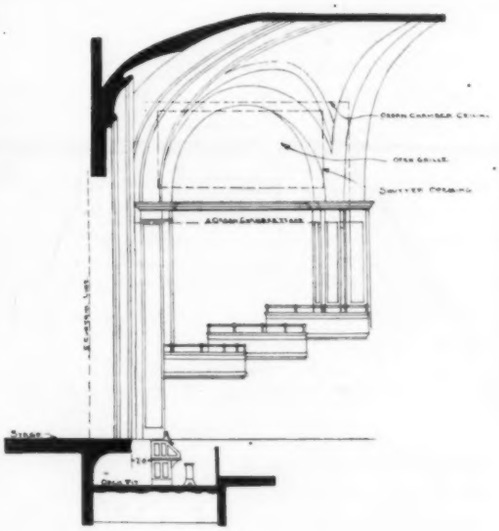
Another very satisfactory location for an organ is to install it above and in the center of the proscen-



Plan of Organ Installation



Plan Showing Rectangular Chambers



Section Through Proscenium

Fig. I

ium arch, with a deflector outside of the organ chamber to deflect the tone down in the direction of the orchestra pit. This tends to make the tone spread under the balcony, giving excellent results, since the tone fills the entire house. See Fig. II.

The size of the organ chamber depends upon the size of the organ, and the size of the organ is governed very largely by the size of the theater. Naturally, a theater seating 3,000 requires a much larger organ than one seating 1,000. A minimum height in the organ chamber of at least 11 or 12 feet is essential. In the case of a large organ a greater height is of course necessary. Suitable openings must be left for the expression shutters in the chambers. The length of these openings depends on the size of the chambers. In general the length of the swell shutter openings should be 85 per cent of the length of the chamber, and the height of the opening should be in the neighborhood of 7 feet, the opening beginning, in the case of the average chamber, from 4 to 5 feet above the organ chamber floor. If the chamber is high, then the opening should be still higher. The tone comes from the *tops* of the pipes, and for that reason it is essential that the swell shutter openings should be at the top of the chamber and not at the bottom. These swell shutter openings must of necessity, in order to get proper results, be horizontal with the chamber and not vertical from top to bottom, as is occasionally suggested by architects who have had but a limited experience with organ installations. The grille work in front of the openings referred to, where the expression shutters go, should be composed of at least 70 per cent of open work, so that the tone is not impeded in its progress from the chamber to the theater.

Around the swell shutter opening in the chamber there should be placed a wood stud frame, consisting of say 4 by 6 studs, to which the expression shutters can be fastened. Regarding the construction of chambers, there are a number of different forms that can be employed,—(1) hollow tile, plastered on both sides; (2) metal lath and plaster with sheathing quilt in between; (3) concrete. Whichever form of construction is decided upon, the inside walls should be plastered and painted to form a hard finish for reflecting the tone, and also to guarantee that the chambers will be free from grit or dirt, since both of these are enemies of the organ.

The location of the blower should be properly arranged in the basement, so as to limit the possibility of noise being heard in the theater. A good concrete floor is necessary for the blower, and where possible the air for the intake of the blower should be derived from the outside, usually easily arranged.

The console or key desk of the organ should be placed in the orchestra pit, the center of which is the best location, especially where the organ is divided, with part on each side of the house, as it gives the organist the opportunity to judge his playing from a central position. This and the other details of organ planning and installation should engage the most careful and thoughtful consideration at the hands of the architect, since organs are being more and more widely used to supply the music which means so much to patrons of a motion picture theater, and which depends so greatly on the organ's arrangement. Indeed, the organ is among the vitally important adjuncts of a motion picture theater, and as such it demands consideration. These apparently small details are vitally important.

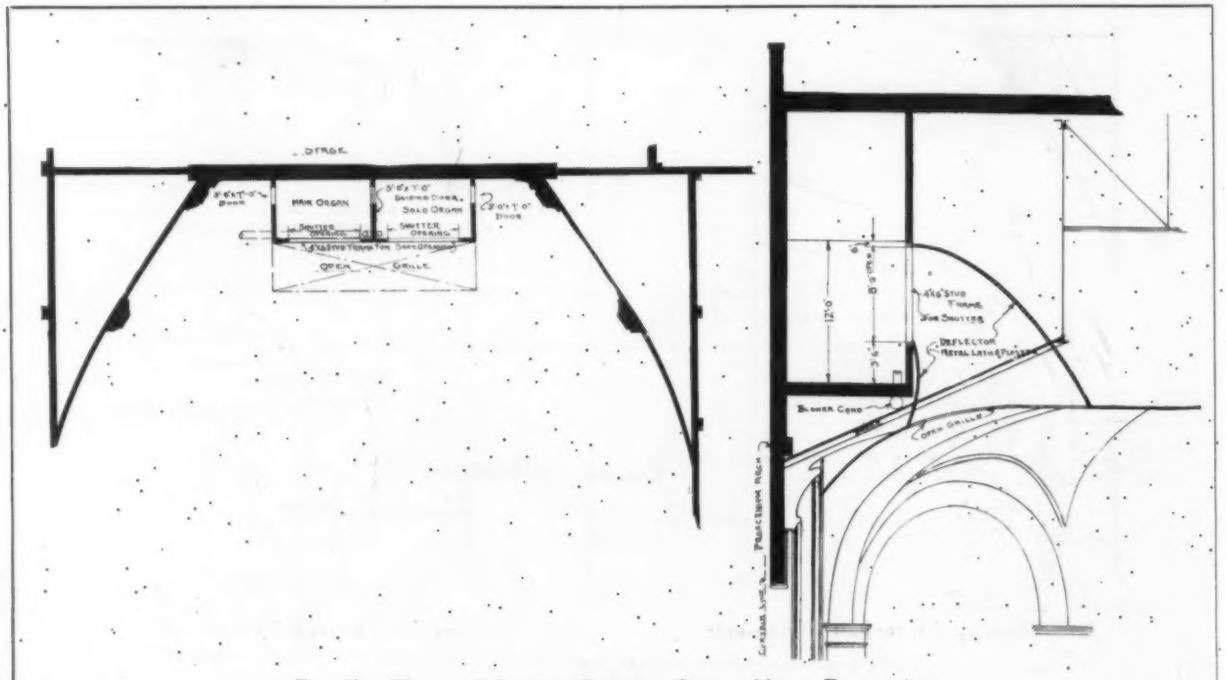


Fig. II. Plan and Section Showing Organ Above Proscenium

The Design of Theater Projection Rooms

By J. H. KURLANDER, *Electrical Engineer, Harrison, N. Y.*

IF this article had been written four or five years ago, it would have been essentially one of criticism,—not altogether of the constructive sort. Coming as it does at this time, it must be tempered with mildness and strike merely a cautionary note.

A motion picture theater consists primarily of three things: an auditorium, a screen, and a projection room. All other equipment, however necessary and useful, can be considered as being merely accessory to these three things. From the standpoint of presenting a show, the projection room, or "booth" as it is sometimes inelegantly referred to, is undoubtedly of the greatest importance. The auditorium, however elaborate, is merely a comfortable viewing place for the patrons. The screen is only a medium for rendering the picture visible to the assemblage, and serves as a register for the skill of the projectionist when presenting the show.

The projection room, however, is equivalent to the back stage area of the legitimate theater, with its various "props" and equipment for putting the show across. Lack of equipment or poor design will unfailingly reveal itself in the form of reduced box office receipts. In the formative years of the "picture parlor," the "booth" consisted merely of a cloth-covered structure housing the lone projector, which spilled the film on the floor or into a waste paper basket. Considerations of safety and efficiency made necessary marked changes in such practices by progressive stages, and recent years have witnessed a decided change of attitude toward projection room design on the part of both architects and exhibitors. That the lesson has not been fully learned, however, is evidenced by the fact that here and there projection rooms are encountered which all too plainly point to either gross ignorance or gross negligence on the part of the architect. The blame for such blunders rests squarely upon his shoulders.

At first thought it would appear as though mistakes would occur most frequently in the smaller theaters, designed by men having only limited experience in this field. This is far from being the case, since only recently one of Washington's largest and newest theaters experienced difficulty when the architects unwittingly attempted to project the picture to the screen through several large crystal chandeliers! Meeting no success along these lines, and being unable to move the chandeliers without destroying the symmetry of the interior, the services of a projection engineer were obtained, with the result that a periscopic arrangement was used to shunt the projector's beams down and around the offending luminaires! The periscope, by the way, consisted of two large, thick, plane mirrors tilted at such an angle as to deflect the beams sufficiently to clear the obstructions. Needless to say, such an arrangement is at best a makeshift, and the projection in this theater will never be up to the mark or give satisfaction.

It is sometimes possible to avoid such an expensive solution by lowering the projectors, where sufficient clearance under the obstruction can be obtained. This was done in a large, new high school building in a certain Long Island town about one hour's ride from New York. Here the architects tried in vain to shoot the light beam through a 20-inch concrete ceiling beam near the "booth." Since chipping out the beam would obviously weaken the structure, it was decided to saw off the projectors' legs, which would give the requisite clearance. The fact that the projectors were so low as to force the projectionist to assume a camel-like posture beside them evidently received no consideration, and in the minds of most of the persons concerned, it deserved none. The light was on the screen,—what more could one reasonably ask?

Going from one extreme to the other, a certain theater in Orange, N. J. was recently renovated, and new trappings, organ, fixtures, and projection room were included on the program. By some freak of plan, the portholes in the front wall of the projection room were misplaced, with the result that standard projectors could not be used. Special long legs were required to raise projectors to a level with the portholes. The lamphouses were then on a level with one's head, and since the projectionist would obviously be required to possess a rubber neck if things were left this way, a concession was made by constructing a platform 18 inches high beside each projector. And so it goes with careless architects.

Projection Room Location

The first thing to do when designing a projection room is to choose its location. By this is meant not so much its location at the rear of the theater, but rather its location with respect to the entire auditorium. Motion picture theaters of today fall into these three separate and fairly well defined classes:

1. Combination vaudeville and picture houses, possessing two or more balconies each.
2. Main-floor theaters, usually of small size, possessing no balconies.
3. Large theaters, possessing but one balcony each.

In Class 2 theaters the projection room is ordinarily placed at the rear, and the requirements are fairly simple. Class 1 theaters do not offer much leeway in the choice of a location, since the picture is more or less incidental to the program. The principal consideration here is to place the projection room where it will require the removal of as few seats as possible. In Class 3 theaters, however, there are two locations from which a selection can be made. One is obviously at the rear of the auditorium, using a

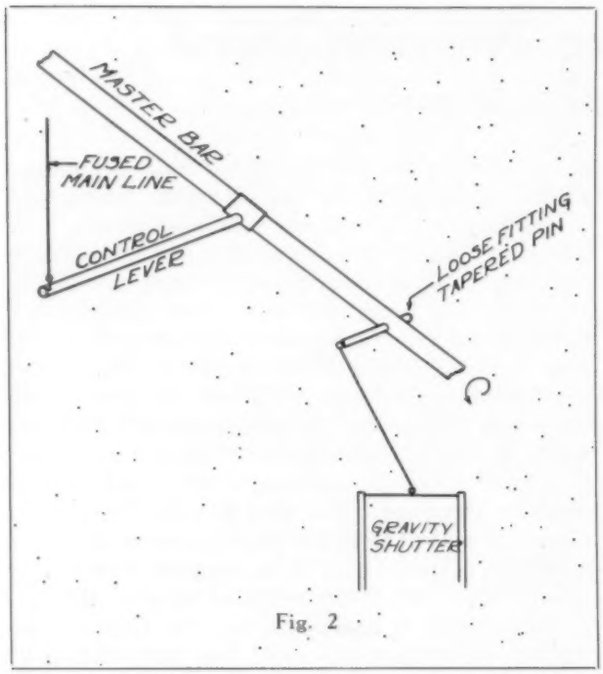


Fig. 2

plan such as is now common practice, and the other is at the front and center of the balcony. The latter location is much to be preferred over the other for a number of good reasons. In the first place, the tendency in this class of theater is to go to extreme depths (200 to 300 feet), which makes the projection of satisfactory pictures quite a problem when the projectors are located at the rear of the auditorium.

The light intensity in the projector beam, contrary to recently held popular opinion, varies inversely as the square of the "throw," or projection distance. Hence, on extremely long throws, such as those just mentioned, it becomes necessary to use the high intensity arc with its disagreeable blue-white color. This color, which kills practically all color value in the film itself, has been attacked with the object of removing it, but so far unsuccessfully. The high intensity arc, too, is more expensive both in first cost and maintenance than the other forms of projection devices. Indeed, it was only the recent commercial manufacture of fused quartz which solved the condenser breakage problem of this outfit. At such long projection distances it is practically impossible for the projectionist to determine with the naked eye whether the picture is in focus on the screen.

With the projection room located in the central front part of the balcony, however, the projection problems become relatively simple. Less expensive and more efficient types of projection systems can be used. It is often possible to use the special incandescent motion picture lamp, where conditions are favorable, thus securing the benefit of maximum efficiency at lowest cost. The conditions in this case approach those of the ordinary theater of medium capacity, and consequently are satisfactorily handled.

Avoid Heavy Projection Angles

Aside from the distance of the projection room from the screen, the most favorable location is that on a level with, and exactly on, the center line of the screen. It is not often possible to meet this condition except in the case of Class 2 theaters, so that some projection angle is generally unavoidable.

The old vaudeville houses, later equipped for motion picture projection, are the worst offenders in this respect. With the projectors located up in

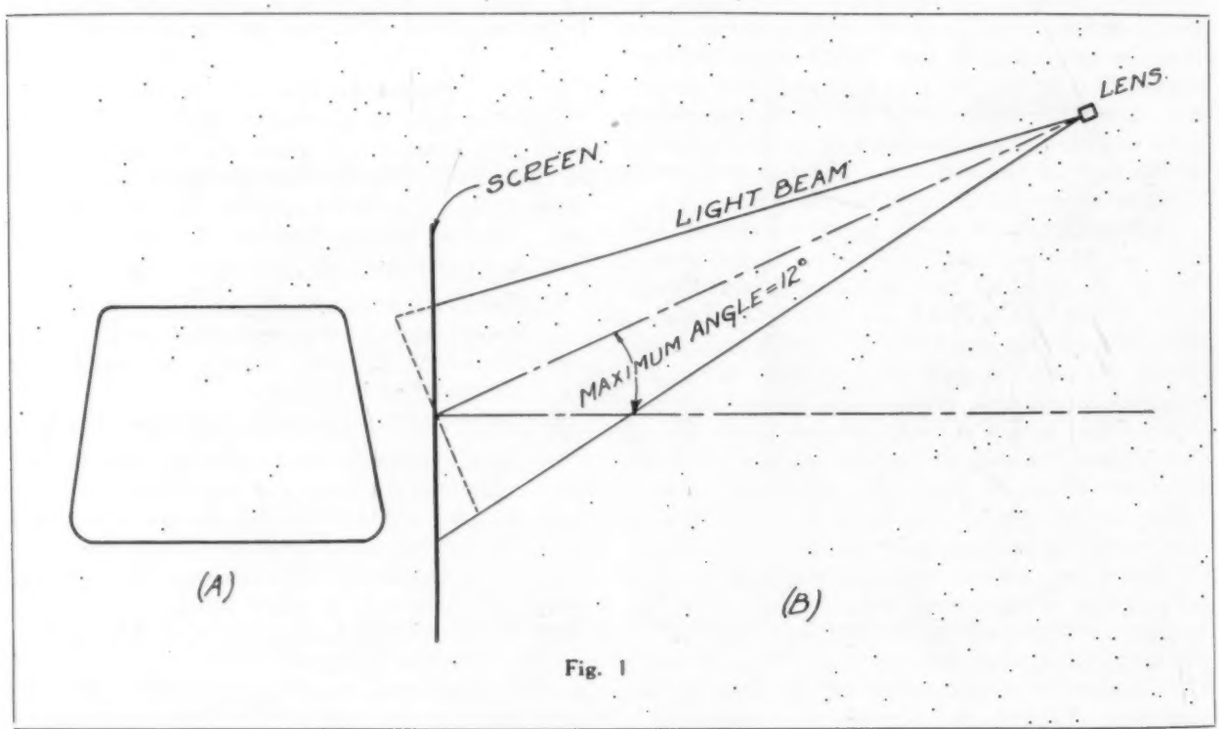


Fig. 1

"nigger heaven," to use the parlance of the streets, the projection angle has often become so great that intolerable distortion of the picture has resulted. An excellent, or rather bad, example of this is in a large vaudeville house in Newark, where it becomes positively annoying to watch the pictures. The effect of a heavy projection angle is illustrated in Fig. 1. Since the projector beam is of a diverging wedge shape, it will be seen that the top of the beam, striking the screen first, will be narrower than the bottom of the beam which travels farther, so to speak. The result is a "keystone" effect, illustrated here. This naturally distorts the picture, and a screen actor, under such conditions, would have a small head and enormous feet. The Society of Motion Picture Engineers recommends that the projection angle should not exceed 12°, in order to insure satisfactory projection.

Aside from the distortion of screen objects, which occurs when the projection angle is excessive, it is also impossible to properly focus all parts of the picture simultaneously on the screen, since the projection lens can only focus one plane at a time. Hence, if the center of the picture is "in focus," the top and bottom screen areas will be "out of focus." Focusing any one particular area is therefore accomplished at the sacrifice of definition in the remaining areas.

Recommendations

The first consideration in the design of a motion picture projection room is obviously that of safety. This element of safety can be looked at in two ways. It is first necessary to render the projection room fireproof, so as to confine therein any conflagration which may originate in the room itself. This is taken care of by the physical construction of the room.

The second requirement is that of panic prevention. The film now in use, the precautions taken in handling it, and the improvements in projector construction have all contributed to reducing the fire hazard to such an extent that film fires are now few and far between. When they do occur, they are largely due to gross negligence on the part of the projectionists. The greatest danger, when a fire starts, lies in possible panic among the audience. For this reason it is necessary to close all openings in the projection room which lead to the auditorium.

A commonly used method for securing such control is illustrated in Fig. 2. This consists, briefly, of a master bar to which are attached the drop shutters by means of tapered pins loosely fitted in holes drilled through the master bar. These pins are held in place by turning the master bar a quarter of a revolution by means of a control lever, which lever is then held in place by means of a master fused line, to which are connected all branch fused lines. The release of any one branch line will release the control lever, whereupon the weight of the shutters will rotate the master bar, permitting the shutters to drop.

Generally speaking, the average architect, when designing a projection room, is all right until he comes to the matter of laying out the portholes in the front wall of the room. He then usually finds it necessary to fit the ports to meet the local conditions, such as avoiding beams, chandeliers and the like. This is obviously "placing the cart before the horse," to use a new and original phrase. Despite the fact that projectors are so built as to allow some leeway in adjustment for height and angle of tilt, the proper thing to do is to *first* lay out the projection room ports, and then make the local conditions

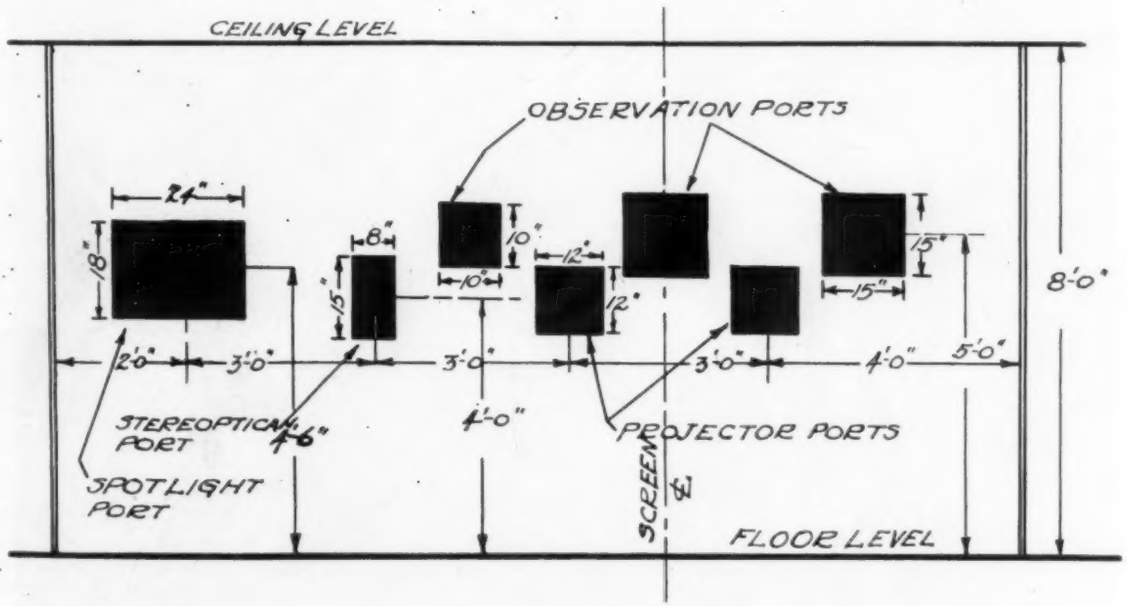


Fig. 3

meet these requirements, whatever they prove to be.

Considerations of comfort and efficiency on the part of the projectionist demand that sufficient side and head room be allowed for in the projection room. With this in mind, we have at hand a key to the problem of locating the ports. All "spot," stereopticon lantern and projector ports should be spaced 3 feet apart. Where but one projector is used, 8 feet should be allowed for it. Making due allowance for clearance between front wall and projector, and projector and rear wall, a total width of 10 feet is recommended. As a guide in the location of projection room ports, the measurements in Fig. 3 are given.

Projection Room Summary

1. First choose a suitable location for the room, so that the projection distance preferably will come within the easy range of the common projection systems now on the market. The nearer the screen the better, keeping in mind that nothing less than a 4½-inch equivalent focal length projection lens should be used.

2. Place the room so that the center line of the screen will come midway between the two projectors.

3. Avoid heavy vertical projection angles, keeping in mind that the limit is 12° for results which are fully satisfactory.

4. *Be sure that no obstructions are in the path of the light beam* after the location is chosen.

5. The projection room should be absolutely fireproof. Safety drop shutters should fit snugly in their grooves and be cushioned to prevent banging.

6. A ventilating fan and exhaust pipe leading to the open air and having a minimum free opening of 18 inches should be provided to insure good service.

7. All doors to the projection room should be of the sliding gravity type, self-closing.

8. Toilet facilities should be provided for the convenience of the projectionist.

9. The artificial lighting should be adequate, and preferably of the totally indirect type.

10. The ceiling should be painted a light cream, the two side walls and rear wall a light gray, and the front wall (toward the screen) a dark gray.

11. A firm foundation for the entire room should be provided. This is highly important.

12. The floor should be varnished, or better still, painted a dark gray. This precaution is necessary, since the top surface of the floor (usually covered with a 1-inch coat of neat cement) will powder and injure the film and projector mechanism.

13. The projection room should be easy of access.

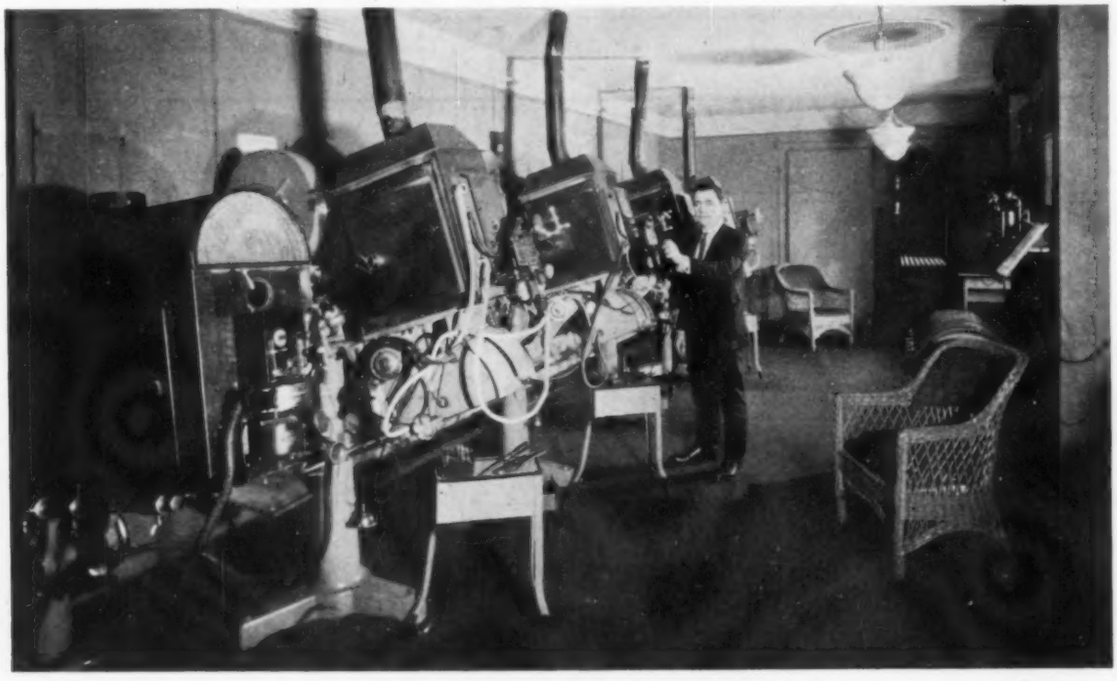
14. All wires of the electrical system should be enclosed in conduits.

15. Power service to the projectors should be placed in conduits beneath the floor and emerging directly under the lamp of each projector.

16. A strong bench and metal cabinets should be provided, either in the projection room or in a special room immediately adjacent to it.

17. House telephones and the necessary signal systems to the manager's office and orchestra pit should be provided.

These suggestions cover, briefly, the important points governing the design of a suitable projection room. If adhered to, we may confidently look forward to the early disappearance of those three species of projectionists now commonly encountered:—the "submarine" projectionist, the "camel-backed" projectionist, and the "rubber-necked" projectionist!



Projection Room, Capitol Theater, Detroit
C. Howard Crane, Architect

Some Structural Features of Theaters

By HENRY AHRENS, *Consulting Engineer, New York*

ROOFS: The framing of the theater's roof presents no unusual difficulties. It is, generally speaking, best to adopt a gambrel type of roof. This type allows the side walls to be of minimum height, and also enables the designer to take advantage of a 20-degree slope instead of a flat deck. Another advantage is that smaller trusses, about 10 feet deep and parallel to the axis of the auditorium, may be framed between the two main carrying trusses at right angles to the axis. This scheme obviates the necessity of haunching the lower chords over the dome, a very uneconomical method of framing. The rafters should be cantilevered over the parallel trusses. In the vicinity of New York, cinder concrete slabs are generally used. Gypsum long-span blocks are used quite often, and have the advantage of lightness, and in addition gypsum is a nonconductor of heat. There are several patented roof blocks which also possess in a high degree the great advantage of lightness.

Rigging Loft: Live loads range from 60 to 70 pounds per square foot, 60 for the smaller houses. It is unwise to use a light loading for the front of the gridiron, since most of the drops are hung in the front part. Three-inch channels make an excellent "slat," and should be spaced at not more than 6 or 7 inches on centers, 6-inch spacing over a span of 7 feet giving a total of 83 pounds per square foot. The cuts should be framed of channels 10 inches back to back and not farther than 2 feet from the proscenium opening at either side, and one cut preferably on the center line. The 3-inch channels should be placed with backs flush with the tops of the channels of the cuts.

Curtain Slots: These come either side of the proscenium opening, and should be of 18 x ⅜-inch plates, bolted to the brickwork at not exceeding 3 feet on centers with ¾-inch bolts built in; or if a steel proscenium column is used, a 6-inch channel should be placed at the end to form a smoke shield. The plate should extend from 1 foot above the stage to 1 foot above the rigging loft. The height of the rigging loft is generally twice the height of the proscenium opening, plus a few feet.

Projection Rooms: These are generally 9 or 10 feet in depth. If the booth is outside, that is outside the rear wall of the theater, provision should be made to insulate the walls and floor. These walls are in general built of terra cotta blocks with stucco finish on the outside. However, this makes a very cold room in the winter, to overcome which a 2-inch air space should be made between the outer block of 6-inch tile and the inner of 4-inch. In localities where severe weather is encountered, the floor should be insulated or made heavier than the 4-inch slab generally used. The length of the booth is dependent on the number of projection machines employed, two projectors, one stereo and two spots being the usual equipment. This gives a booth of from 14 to 16 feet in length, to which should be added 5 feet for a rewind room, and from 3 to 4 feet for a toilet room with a wash basin. This gives a total length of 24 feet or so, plus provision for a stairway or ladder shaft from the booth to the theater, at the bottom of which there must be a self-closing fire door to secure adequate safety.

Organ Lofts: These are generally placed adjacent to the proscenium wall, and have a minimum depth of about 8 feet. More depth should be given if possible. The ceiling should be 10 feet above the finished floor, built of metal, lathed and plastered. An opening of ample allowance, not less than 30 square feet, should be made, so as not to stifle or choke the music in its progress into the auditorium.

Balconies: The framing of the balcony is the crux of the entire steel design. There are several methods of framing in general use. One method is to carry the crossover truss or the first truss back of the balcony fascia straight across to the columns of piers in the side walls. The second method is to make the crossover truss about one-half or two-thirds the distance across, then to carry the ends over a short carrying truss, by means of a cantilever, to the fulcrum truss. This method gives a much stiffer balcony than the first method, as the crossover truss is rarely over 5 or 6 feet in depth. The radial system of framing has not been used for some time, since it is uneconomical and also complicated in framing and detailing.

Construction: The stringers are all placed parallel to the center line, and are spaced 8 feet apart for cinder concrete construction, and up to 10 or 12 feet when stone concrete is used. Use of the cinder concrete slab is very economical, and should be employed where clean, steam boiler anthracite cinders are obtainable. The risers, usually about 12 or 14 inches in height, are made 2 inches thick; the slabs are 4 inches in thickness, 3 inches of cinder concrete and 1 inch of cement finish, applied before the 3-inch slab has set, giving a monolithic finish. This slab is reinforced with triangular wire mesh, carried over haunches resting on the steel stringers and requiring no steppings or angles except at the crossovers. Such a floor will weigh, with a 12-inch riser, 165 pounds per square foot. For stone concrete it is advisable to reverse the methods for cinder concrete and make the riser the carrying beam, figuring the treads as a half-tee beam. This will give a span of from 11 to 12 feet, with the riser 4 inches in thickness at the center between the stringers to about 5 inches at the supports. Use of square reinforcing rods at the bottom of the riser

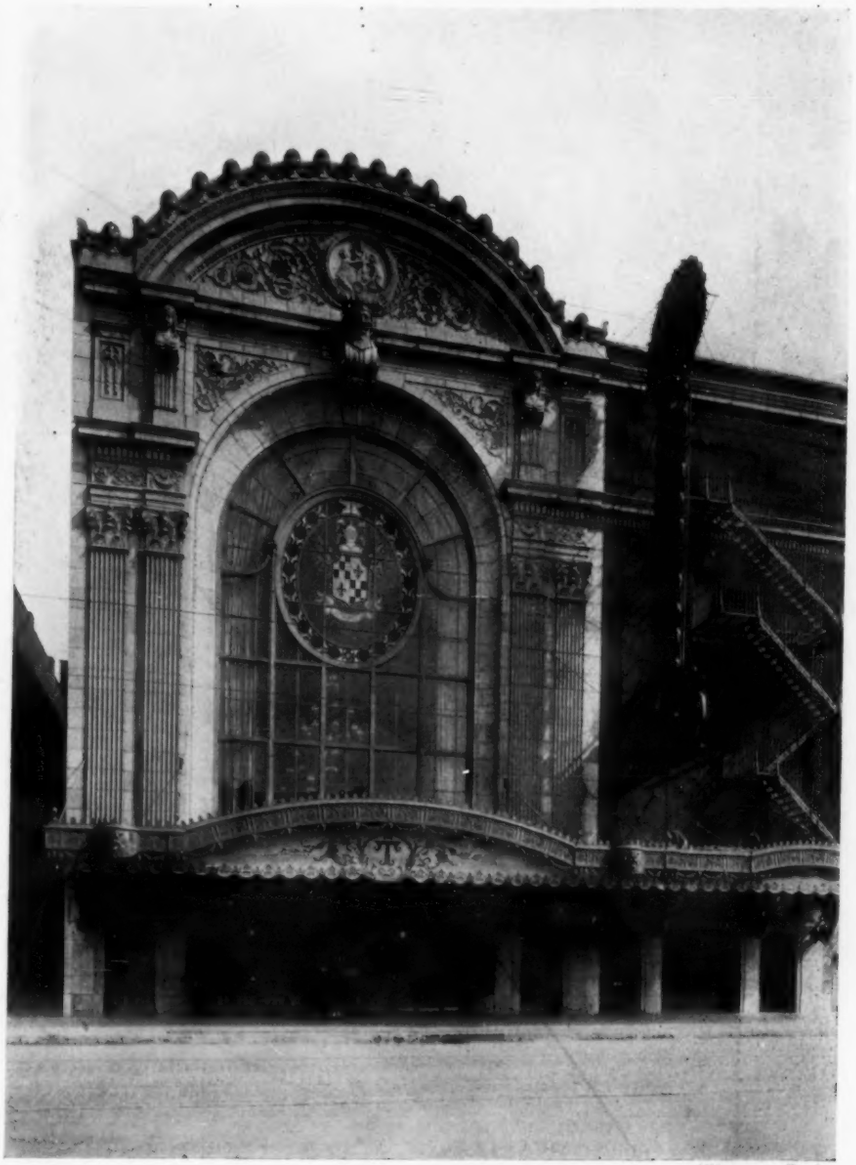
at the midspan is best. It is best to space the stringers so that no stirrups will be necessary. The position of the fulcrum truss is generally determined by the architectural treatment of the mezzanine. As great a depth as is possible should be sought after, as this truss is the main carrier of the balcony. If the balcony has the vomitories at the sides, carefully scan the clearance of the hip member of the truss. If the vomitories are placed near the center, complicated truss forming will be caused. However, a little shifting of the panel points of the truss will generally overcome this, and give sufficient clearance for the vomitories. If the width of the house is over 60 feet, it will generally be found necessary to dip the sides of the balcony in order to improve the sight lines. A dip of 12 inches is usually made in an 80-foot balcony, and about 14 or 15 inches for a balcony of 100 feet. The sight lines in general are determined by a height of from 18 to 20 feet on the curtain line above the stage, and 5 feet or so below the stage for the slope of the balcony. Ten feet is rather low for a ceiling at the standee rail, and it should preferably be greater to be satisfactory.

The proscenium wall above the opening is carried sometimes by a truss or girder and quite often by a reinforced concrete girder. One advantage of the reinforced concrete girder is that the form can be built and the girder cast in place before a truss could be shipped. In the vicinity of New York, where cinder concrete is obtainable, a steel truss cast with about 12 inches of cinder concrete makes an ideal form of construction, combining lightness and high fire-retarding qualities. The stage portion of the theater is always fire-sealed against the auditorium by means of a 12-inch brick or concrete wall with only one opening from stage to orchestra floor, this opening to have a self-closing fireproof door on each side. The stage is also fire-sealed against the dressing room section of the building by the same means, and the dressing rooms are similarly sealed against the auditorium. The stage floor, or that portion of it which is back of the proscenium opening and for about 8 feet on either side of it, is always built of wood. A floor of at least 1¼-inch thickness, carried on joists and supported by two rows of posts with provisions for one or more lines of traps, is the method of framing the stage floor.

Regarding live loads, most of the building codes require a loading of 100 pounds per square foot, and it is the loading generally used in the absence of a building code. Some codes allow a lighter live load when fixed seats are installed and an increased loading for the aisles. It is best, however, to use the 100-pound loading for the balcony and mezzanine. As the orchestra floor is generally laid directly on soil, care should be taken that backfilling be well tamped and light reinforcing placed in the concrete finish to prevent the floor's sagging due to shrinkage of the fill. The finish, if concrete is used, should be at least 2 inches in thickness.

Detail, Kinema Theater, Fresno, Cal.
G. Albert Lansburgh, Architect

THE MAIN LOBBY

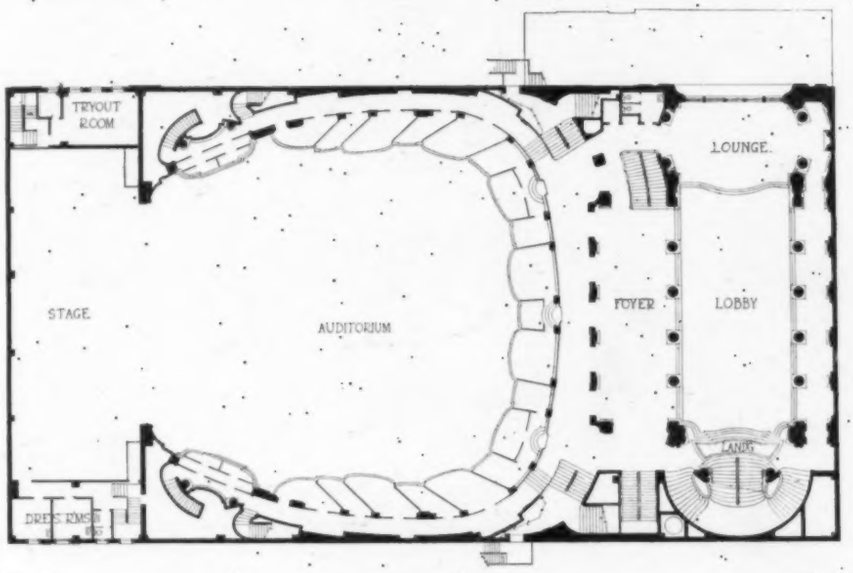


ENTRANCE FRONT

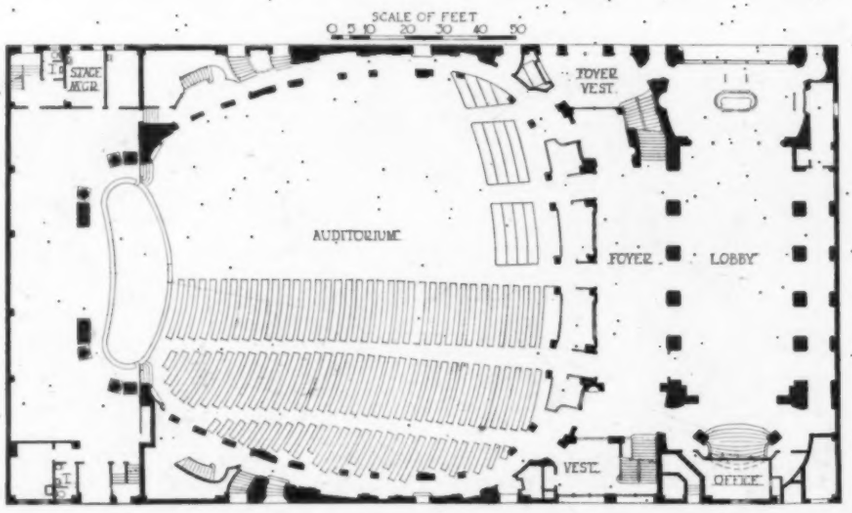
(Plans on Back)

THE TIVOLI THEATER, CHICAGO

C. W. & GEORGE L. RAPP, ARCHITECTS



MEZZANINE FLOOR

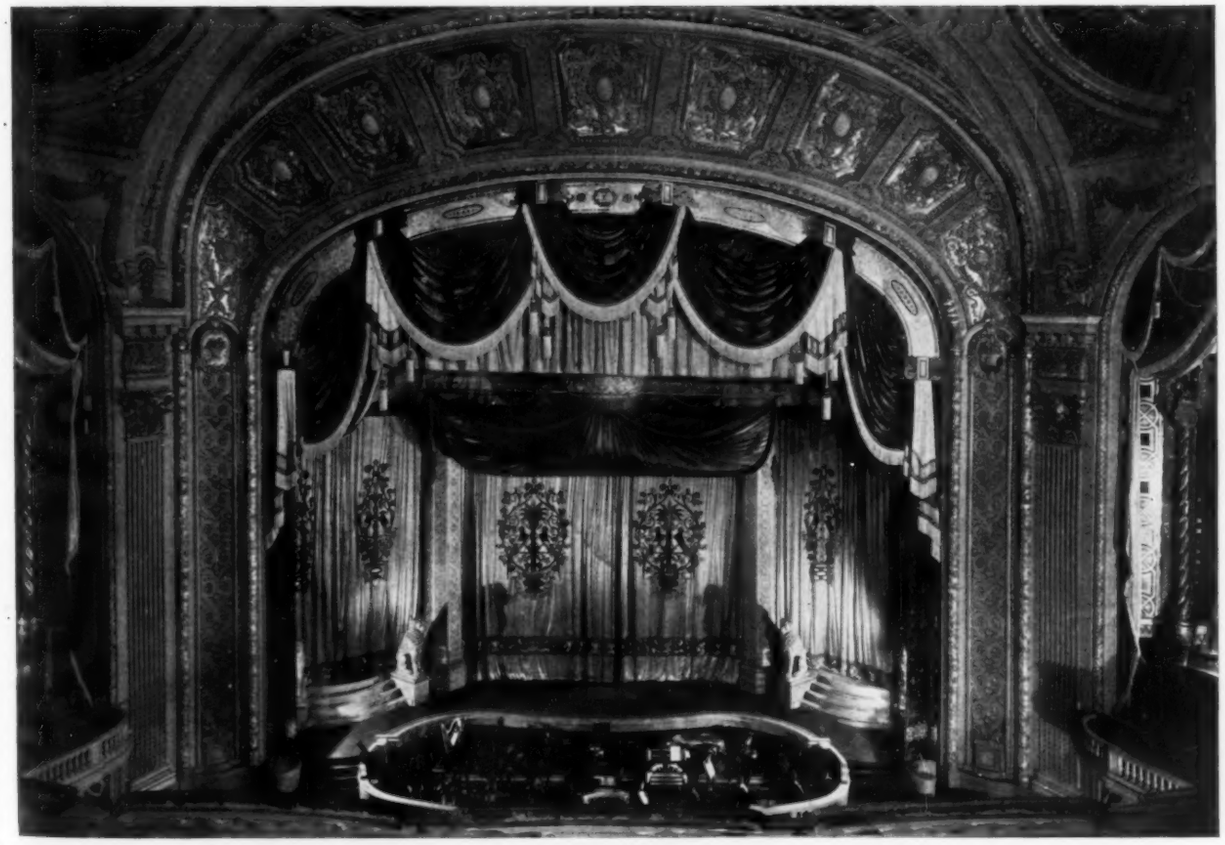


ENTRANCE FLOOR

PLANS, THE TIVOLI THEATER, CHICAGO

C. W. & GEORGE L. RAPP, ARCHITECTS

CEILING AND WALL TREATMENT FROM THE BALCONY



PROSCENIUM ARCH

THE TIVOLI THEATER, CHICAGO

C. W. & GEORGE L. RAPP, ARCHITECTS

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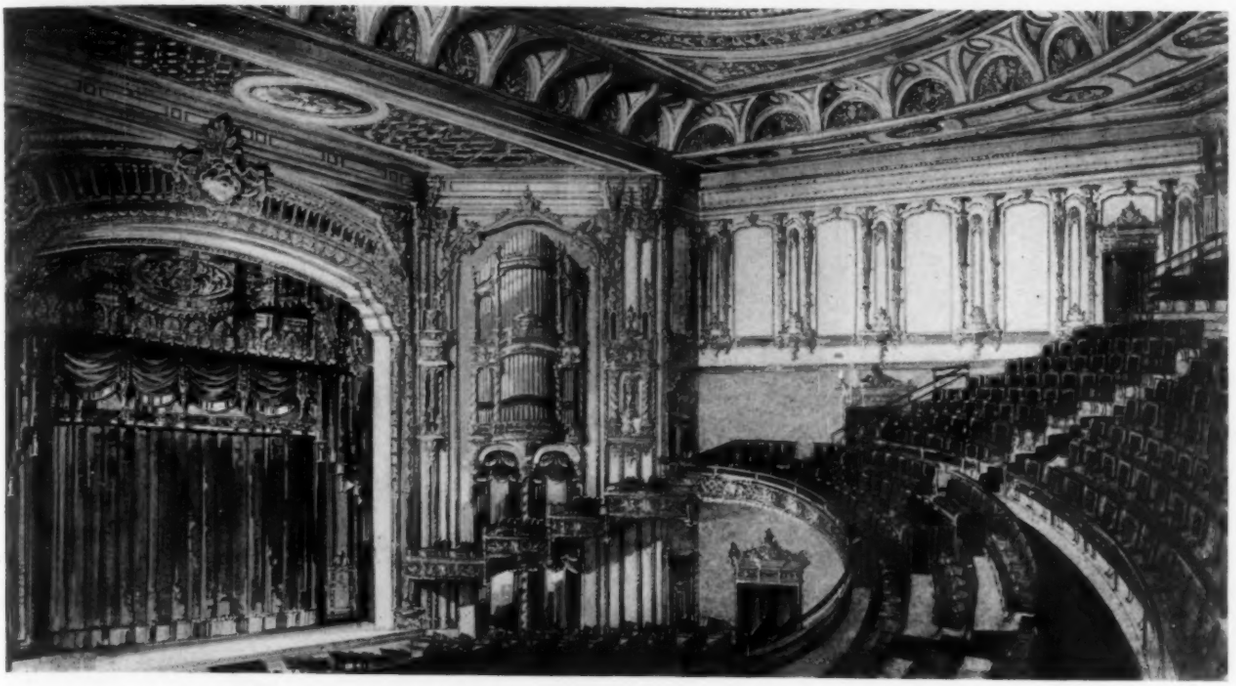


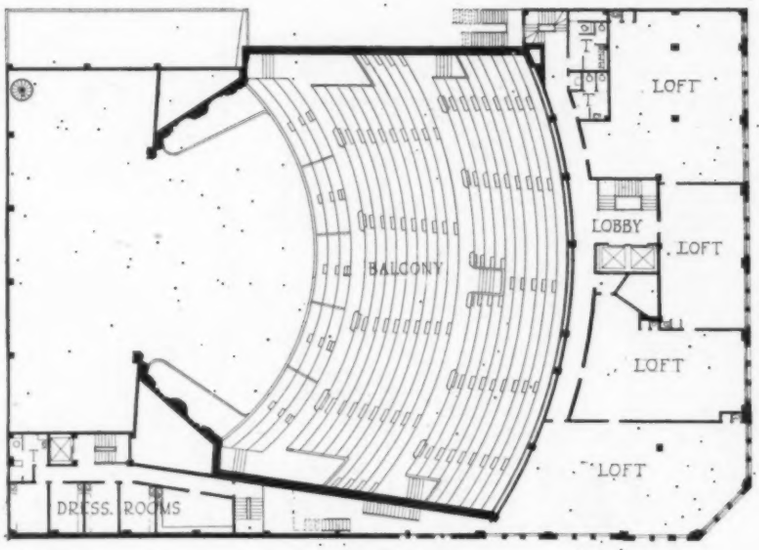
FROM A DETAIL DRAWING OF THE AUDITORIUM

FRONT ELEVATION

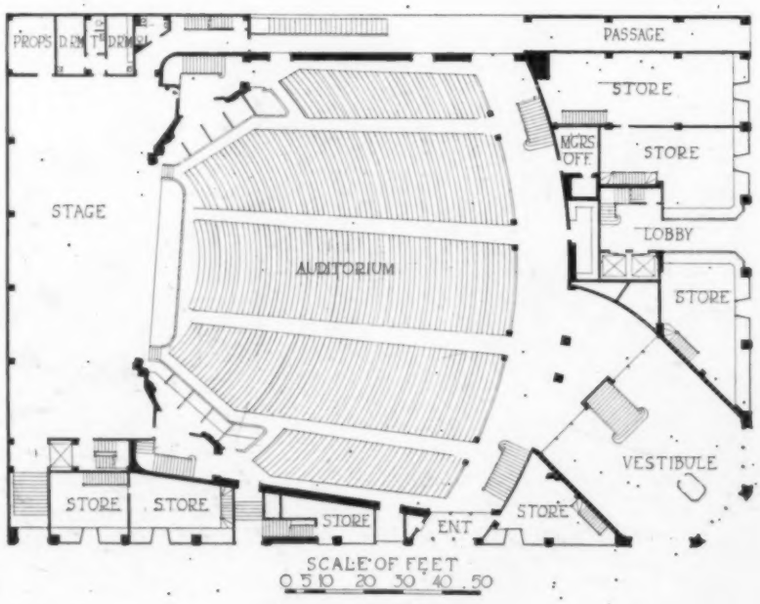
(Plans on Back)

THE GOLDEN GATE THEATER, SAN FRANCISCO

G. ALBERT LANSBURGH, ARCHITECT



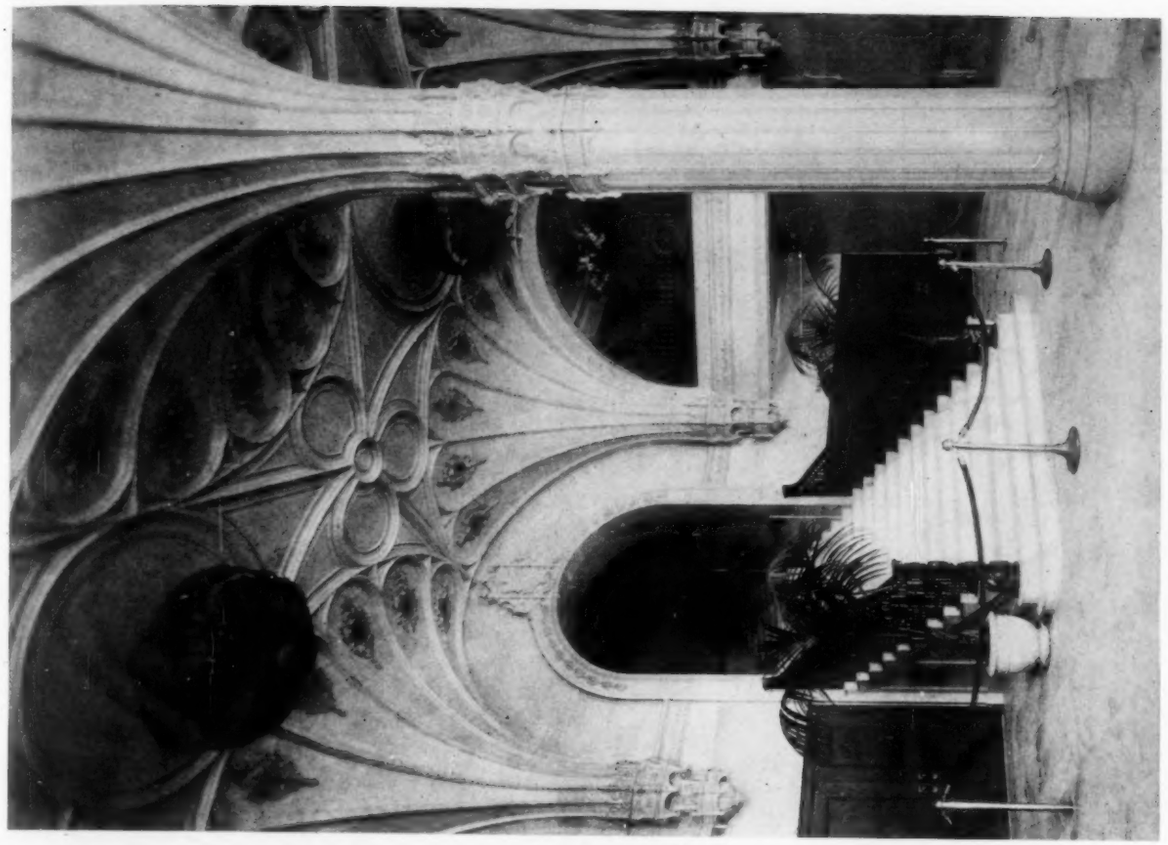
BALCONY FLOOR



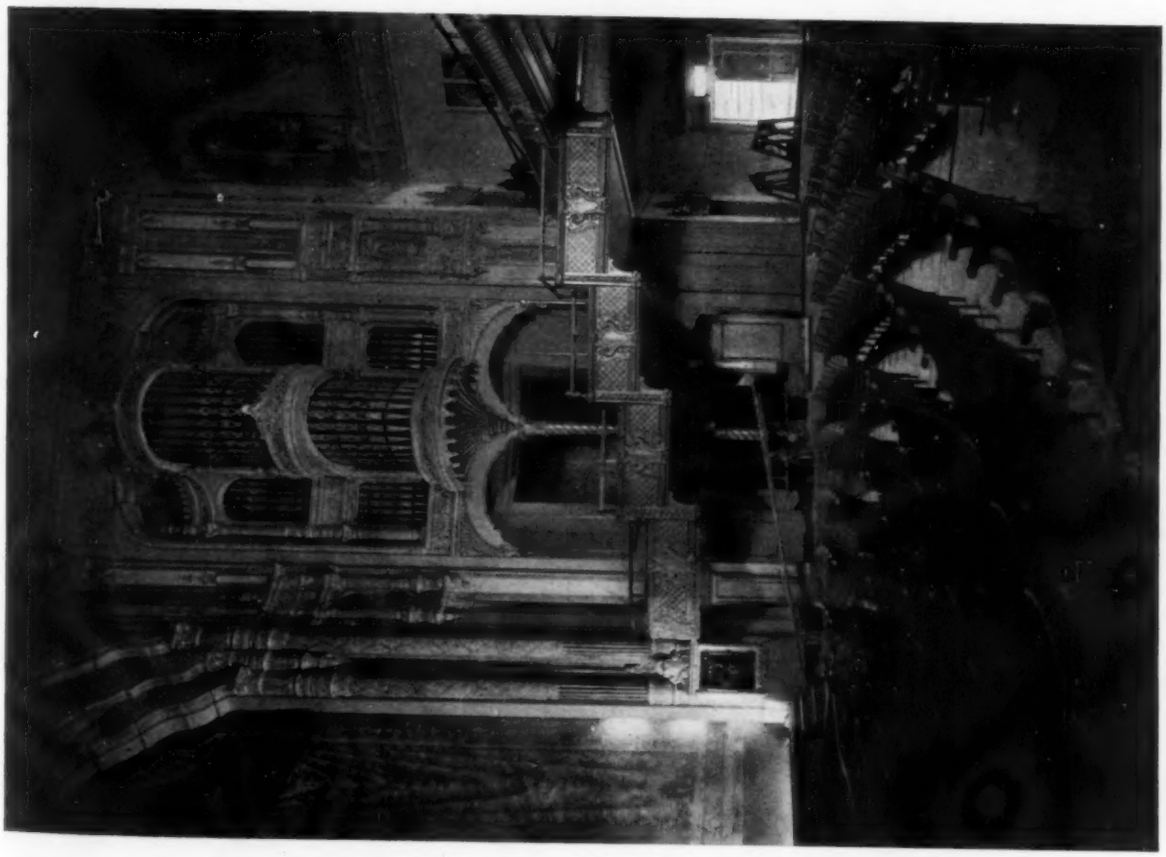
ENTRANCE FLOOR

PLANS, THE GOLDEN GATE THEATER, SAN FRANCISCO

G. ALBERT LANSBURGH, ARCHITECT



THE ENTRANCE LOBBY



ORGAN AND PROSCENIUM

THE GOLDEN GATE THEATER, SAN FRANCISCO
G. ALBERT LANSBURGH, ARCHITECT

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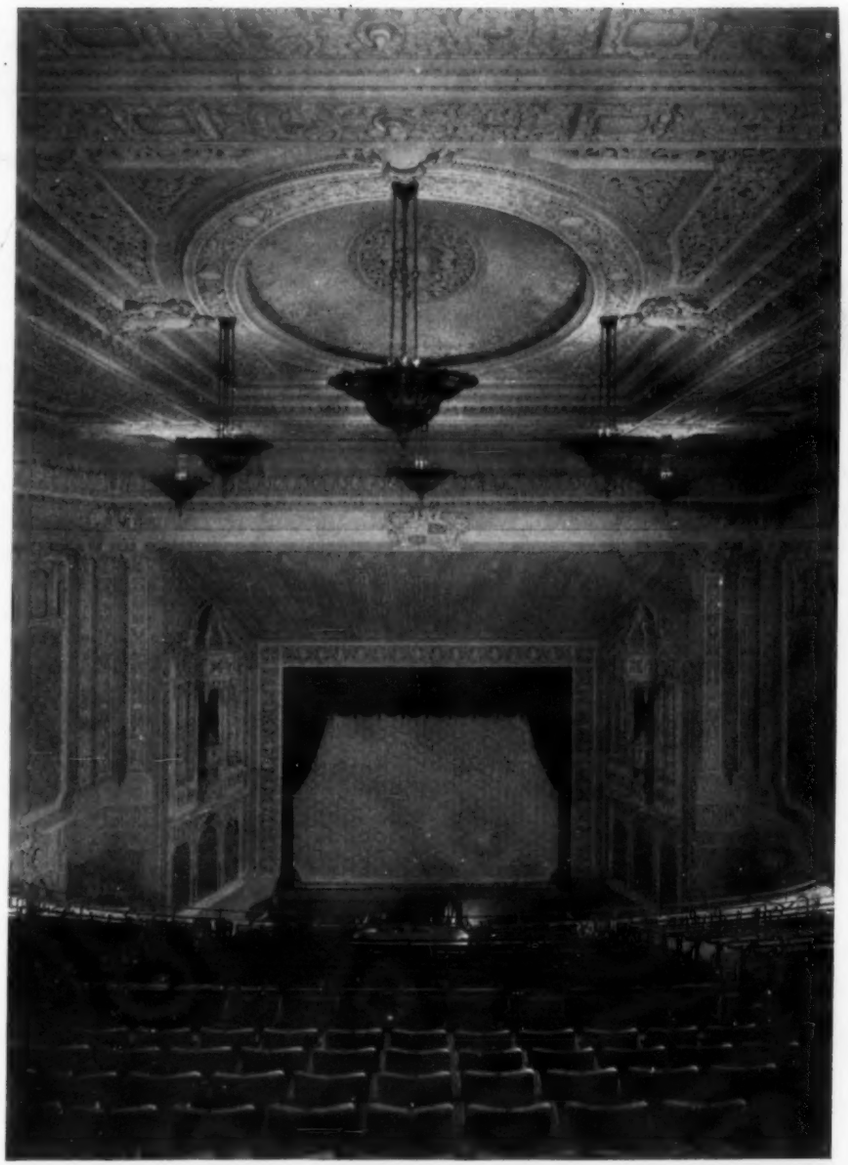
GRANADA
GRANADA THEATRE
OPEN TO-DAY ONE OF THE FINEST MOTION PICTURE THEATRES IN THE WORLD
A NEW STANDARD IN PRESENTATION OF PHOTOPLAYS AND MUSIC

ENTRANCE FACADE

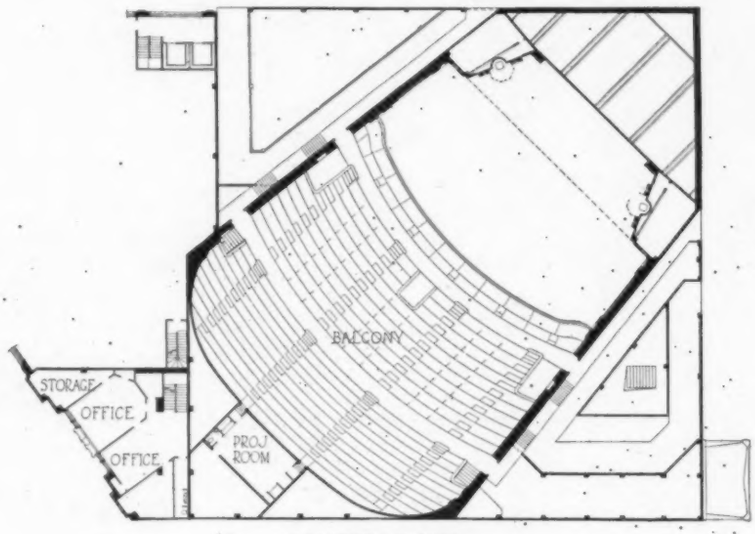


STAGE FROM THE BALCONY

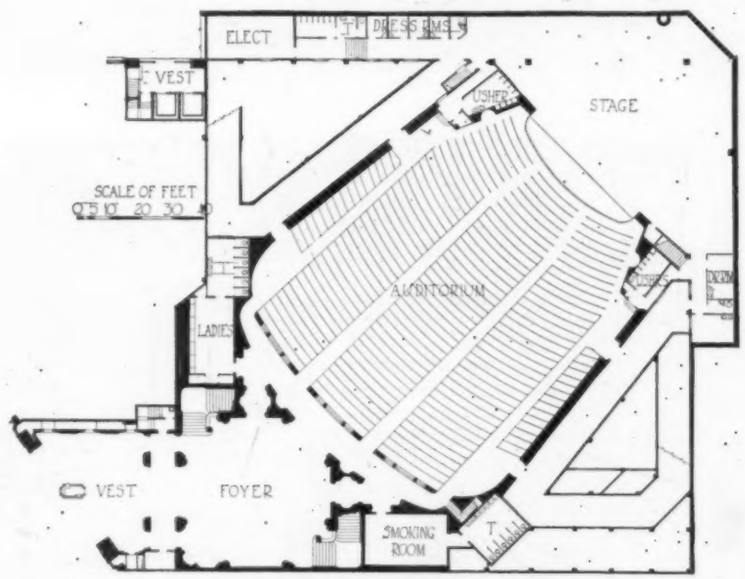
(Plans on Back)

GRANADA THEATER, SAN FRANCISCO

ALFRED HENRY JACOBS, ARCHITECT



BALCONY FLOOR

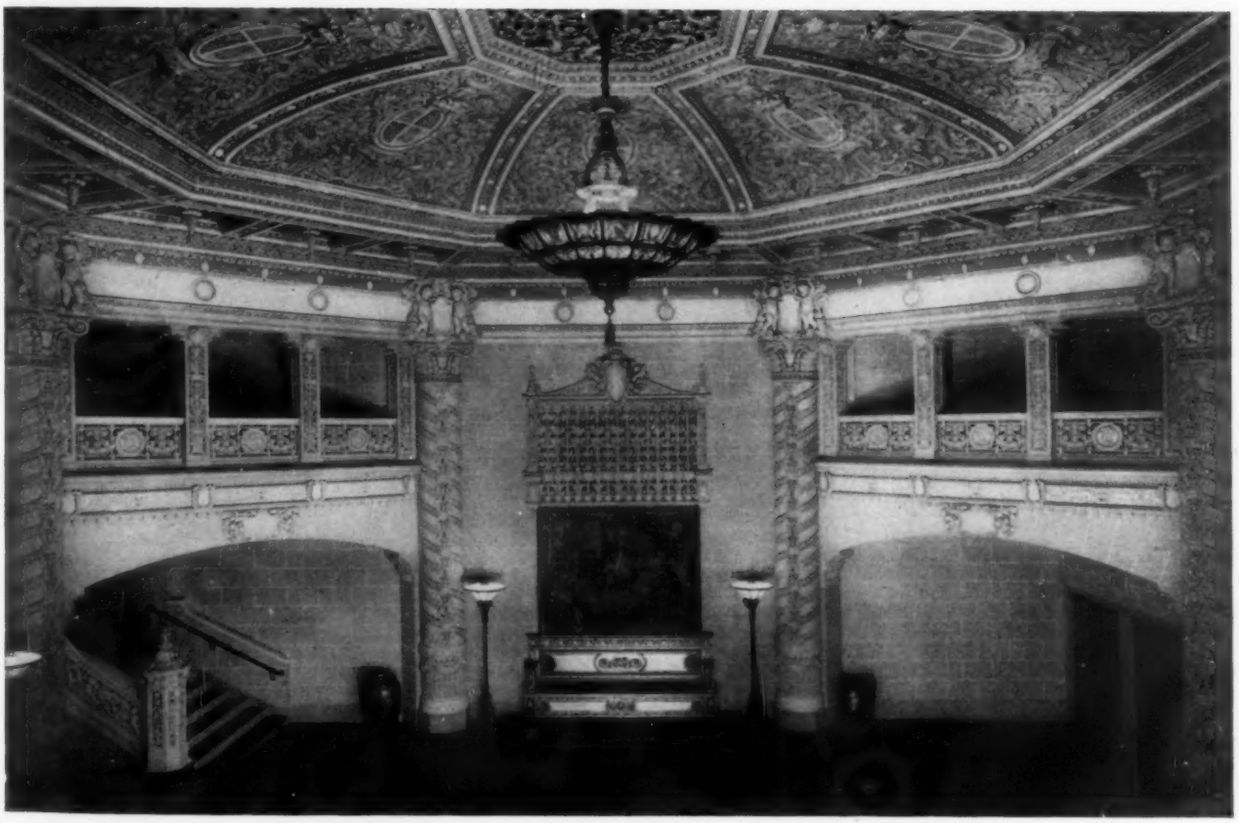


ENTRANCE FLOOR

PLANS, THE GRANADA THEATER, SAN FRANCISCO

ALFRED HENRY JACOBS, ARCHITECT

ENTRANCE LOBBY

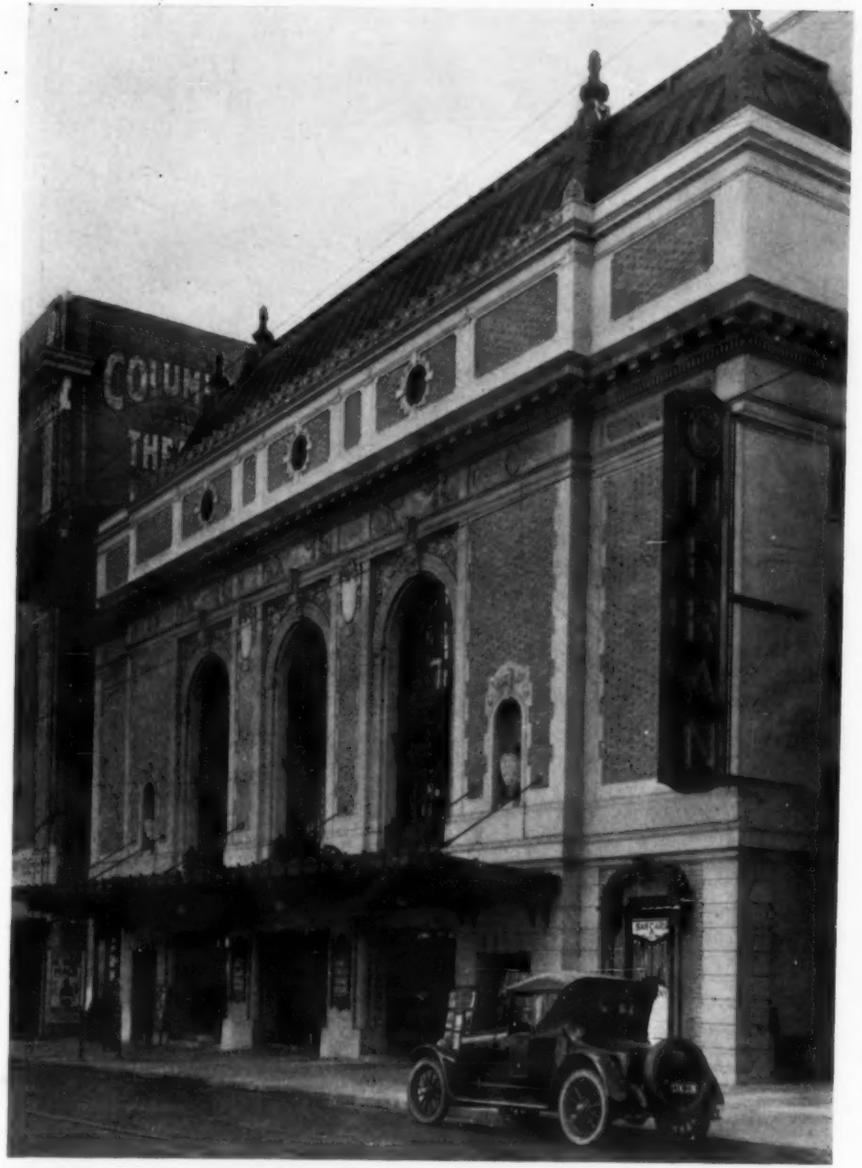


MAIN FOYER

GRANADA THEATER, SAN FRANCISCO

ALFRED HENRY JACOBS, ARCHITECT

Architectural
Library



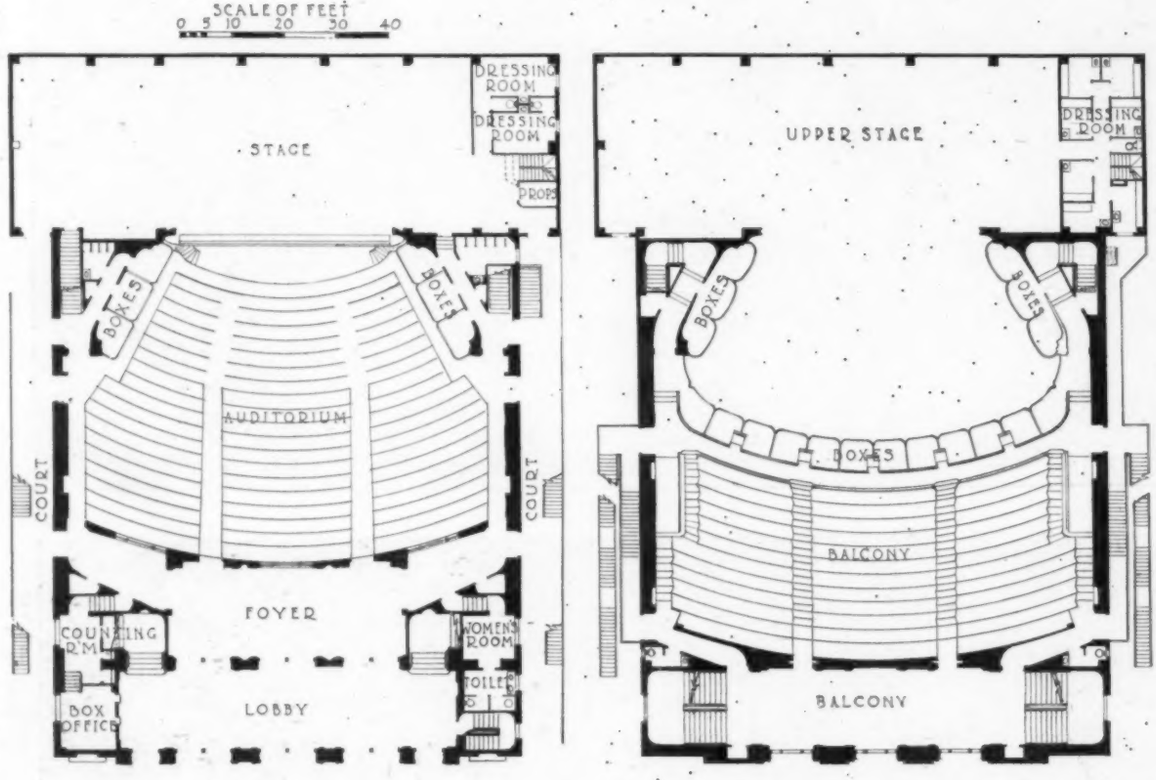
ENTRANCE FACADE

DETAIL IN AUDITORIUM

(Plans on Back)

THE CURRAN THEATER, SAN FRANCISCO

ALFRED HENRY JACOBS, ARCHITECT



PLANS, THE CURRAN THEATER, SAN FRANCISCO

ALFRED HENRY JACOBS, ARCHITECT

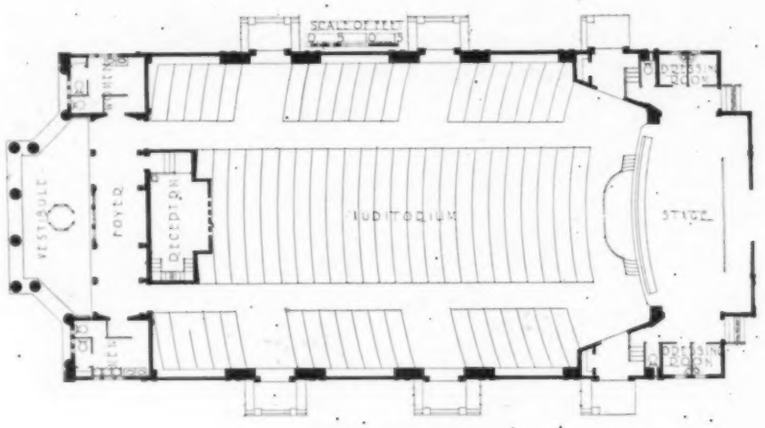
TYROLEAN INFLUENCE SEEN IN THE EXTERIOR DESIGN

CHURCH-LIKE TREATMENT SHOWN IN THE AUDITORIUM

THE WINEMA THEATER, SCOTIA, CAL.

ALFRED HENRY JACOBS, ARCHITECT

(Plans on Back)



MAIN FLOOR

PLAN, THE WINEMA THEATER, SCOTIA, CAL.
ALFRED HENRY JACOBS, ARCHITECT

Stage Layout and Equipment

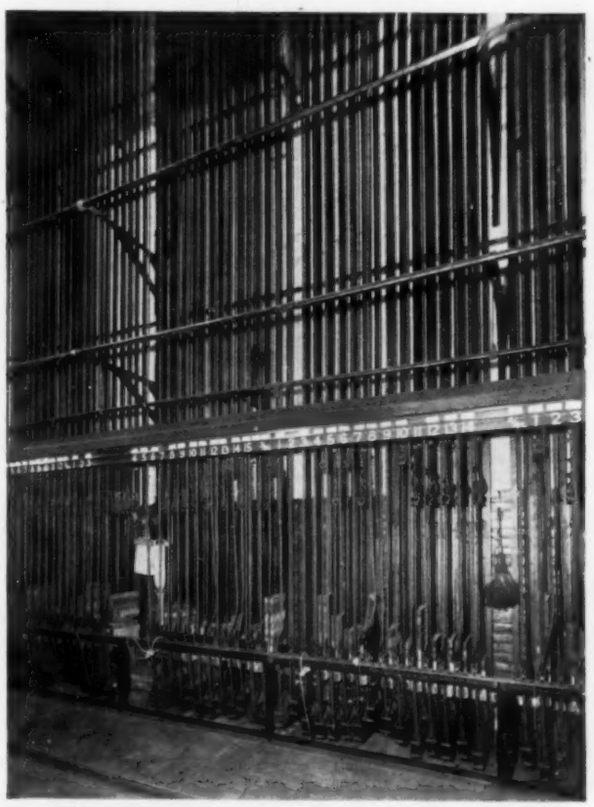
By EDWARD H. KEARNEY, C.E., *New York*

IT is obvious that the size of the stage and amount of stage equipment that are needed for a motion picture theater depend upon the policy of the house. In the theater that shows only pictures, no elaborate stage rigging is needed, as the screen could be permanently placed on the back wall and only a shallow stage is necessary. A height of about 3 or 4 feet above the proscenium opening is all that is required for a stage house. In this type of building a shadow box could be built permanently around the picture screen, and the only rigging needed would be a draw-curtain track, which may be tied off dead from eyebolts in the ceiling; the valances also could be tied off dead. Thus the stage is of the simplest.

If the theater is one that features an organ, this type usually has for showing pictures a permanent architectural setting built on the stage about 15 feet deep. The screen should be set about 4 feet from the rear wall, so as to allow a passageway back of the stage. The stage within the proscenium arch may be stepped down, forming an orchestra pit. The organ console should be built on a console elevator, or movable platform. In this type of house a draw-curtain with a track is needed, directly in front of the screen since it is frequently used.

In the theater which features a concert orchestra, a most novel effect is gained by placing the orchestra on an orchestra pit elevator. The platform of the elevator is the entire floor of the orchestra, which may be lowered to the basement level or brought up to the stage level. The orchestra is featured and made part of the program in a novel manner. The musicians assemble in their places with the platform at the low level, where there is a convenient entrance; then, while they are playing, the platform is raised to its position in the auditorium, in full view of the audience. When the orchestra is to play as an accompaniment to the pictures, it is brought to an intermediate position below the sight lines of the audience. When the musicians are leaving the pit, the platform is lowered again to the basement level, so that their leaving causes no annoyance to the patrons of the theater, nor does it distract their attention from the screen. The organ console can be placed on a separate platform and operated in the same manner as the orchestra arrangement just mentioned. The placing of the console on a separate ledge permits the featuring of the organist in a solo number. There are three positions for orchestra lifts—the bottom of the pit; screen playing level; and the overture level, which is usually the level of the stage. Another feature of the orchestra platform lift is that it may be used at the level last mentioned to enlarge the stage area or for symphony productions. The operation of the orchestra or the console lifts is electrical and automatic. The leader, by pushing the proper button, can bring the lift to any of the three levels desired, at which the lift will automatically stop and there remain rigidly fixed.

In the theater where the policy combines vaudeville and pictures, or pictures and ballet, a full sized stage is required. Theaters that are equipped with orchestra lift platforms are also usually built with good sized stages. Such stages should not be less than 30 feet in depth and no less than 30 feet in width, and have a height of approximately 60 feet to the gridiron. The height of the gridiron above the stage depends on the height of the proscenium opening. It should be at least double the height of the opening, plus 5 feet. The stage requirements are an asbestos curtain and rigging; an act curtain and rigging; three "oleos," or rapidly working curtains; a picture sheet, and about 45 sets of lines for drops. The asbestos curtain must have a rigging of its own, consisting of a 16-inch sheave and a 20-inch hair block, hung on wire cables counterbalanced so that the curtain will descend by gravity under its own weight, the counterweight to run on T-bar guides. Headblocks and sheaves should be placed on brackets, either built into the



Typical Installation of a Counterweight System

Orchestra Platform in Lowered Position

proscenium wall or securely bolted into it. Rigging for the act curtain is of the same type as is used for the asbestos curtain, but it may be evenly counterbalanced. These details are of considerable importance.

In inexpensive theaters counterweight systems of improved type are being installed in place of rope sets with their fly galleries and old style sandbags. In the counterweight system all weights are carried on steel cables instead of on manila ropes, counterweights are run in T-track guides on the side walls of the theaters, and steel cables are run from the tops of the counterweights over the headblocks and through floor sheaves to pipe battens, which are accurately level with the stage floors, and made to accommodate drops which are the full sizes of the openings. The entire system is handled from the stage door, where there are safety locks so that the scenery can be held in any desired position, and also an illuminated strip which lights the locking rail and carries the numbers of the sets. The locking rail is also equipped with a strip for card indexing each set of lines, so that anyone can tell at a glance just what is hanging on each set.

Houses equipped with counterweight systems need no special equipment for border lights or act curtain. They can be hung directly on the system and counterbalanced. This system permits the making of changes in a remarkably short time and with a great saving in labor. Besides the asbestos and act curtains, there should be a grand drapery, a working drapery, "tormentors" and "tormentor flippers."

The tormentors and flippers should be from 18 to 20 feet high; the tormentors 8 feet wide and the flippers about 4 feet, 6 inches wide. The distance from the proscenium opening to the side walls of the house should be about 15 feet. The rigging for scenery should be arranged to enable handling of it on the same side of the stage as the switchboard. Electrical stage pockets should be provided on both sides of stage, the first being placed about 6 feet upstage from the curtain line, then spaced 7 feet apart for the depth of stage.

Orchestra Platform in Raised Position

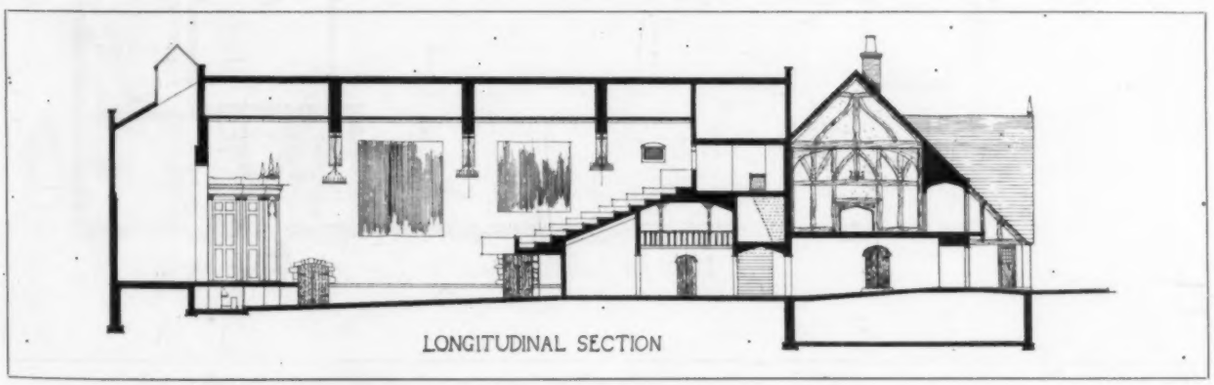
The Small Motion Picture Theater

By J. H. PHILLIPS, *Architect, New York*

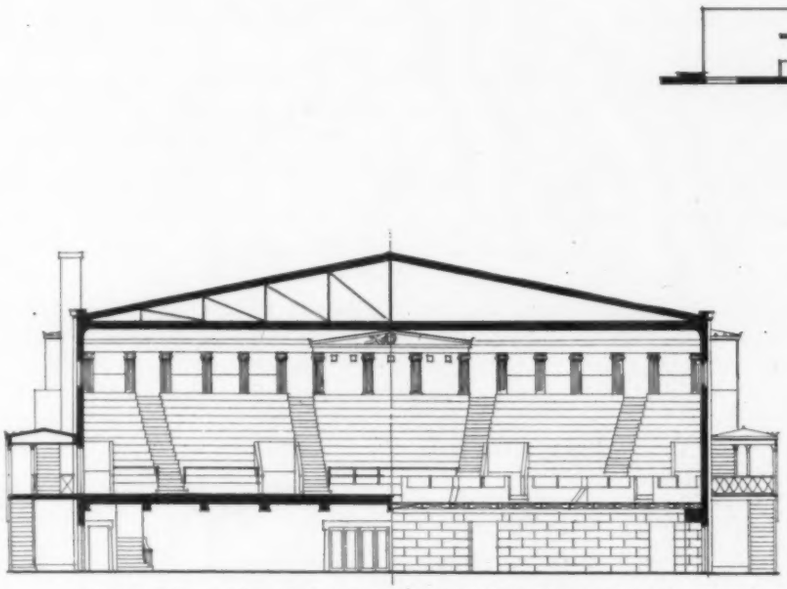
OUR modern domestic architecture has made a steady and wonderful advance in recent years. Not only have housing conditions improved through the careful study of the leading architects, who have designed artistic houses and attractive apartment structures, but also our public buildings, particularly our public schools. have become worthy examples of architecture. It is most unfortunate, therefore, considering the great number of theaters and motion picture houses that have been built in recent years, that architects have not given more attention and shown more creative ability in the designing of the small rural and suburban "movie" theater. Here lies a great opportunity to improve public taste by designing more attractive buildings, which will attract and delight the public.

An attractive, comfortable motion picture theater in a suburban town is a source of pride to the community, just as much as are artistic homes and quaint cottages. In designing the exterior of a small theater, there are unlimited opportunities for carrying out fantastic ideas and interesting effects. For instance, the suggestion of a picturesque old English tavern, or a refined American Colonial facade with porticoed entrance, white trim, red brick and old fashioned shop fronts, holds alluring possibilities. In our country towns and villages we find but few instances where theaters have been designed by architects of training and ability; yet the motion picture theater and playhouse may become a potent factor in the architectural development of a community, so that its influence, artistically as well as

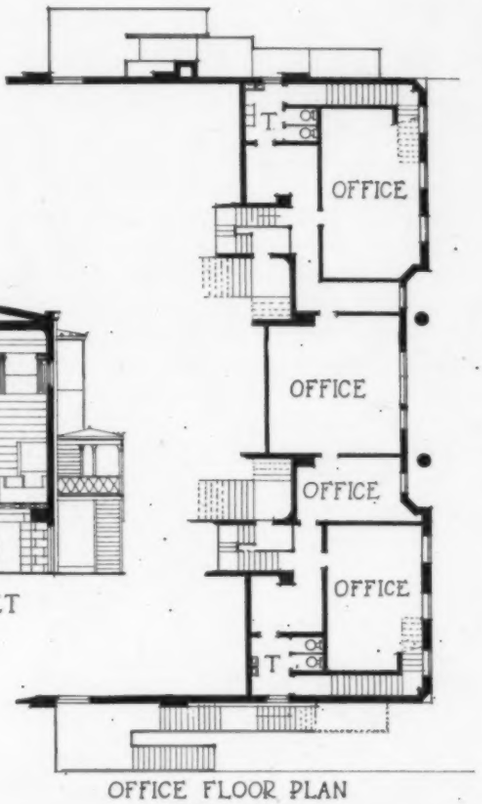
Perspective Sketch of the Bellevue Theater, Upper Montclair, N. J.



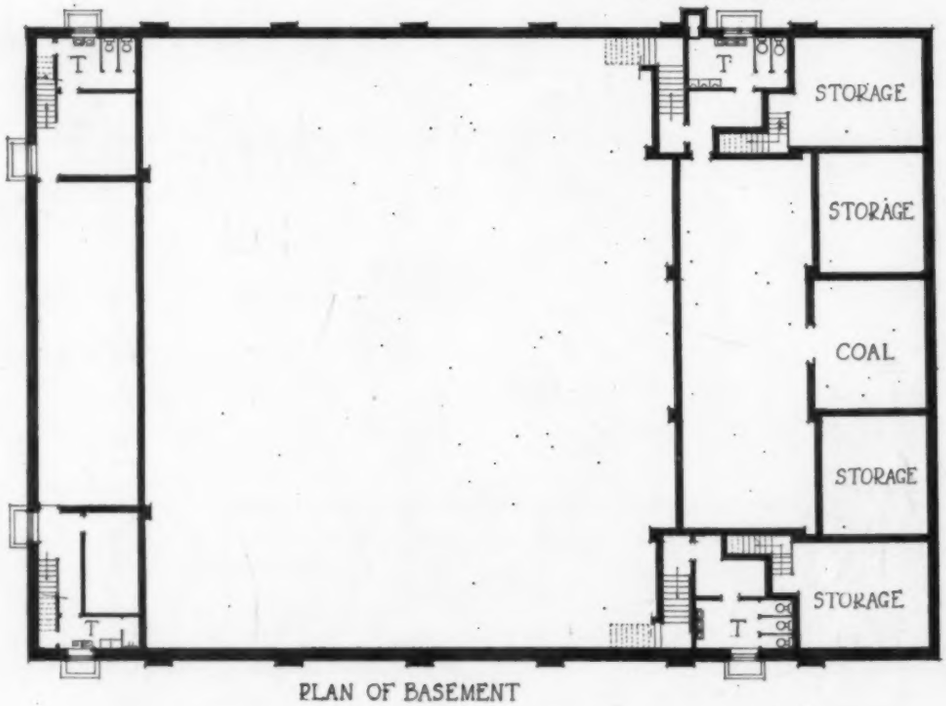
The Bellevue Theater, Upper Montclair, N. J.
J. H. Phillips, Architect



ONE HALF CROSS SECTION THRU FOYER & PARQUET



OFFICE FLOOR PLAN

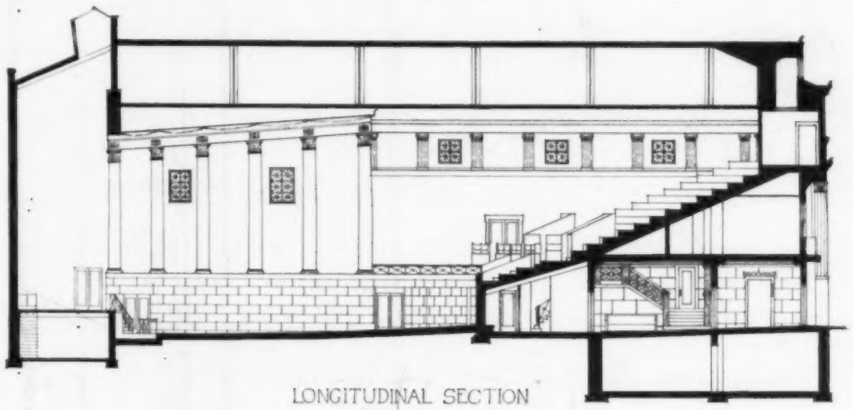


PLAN OF BASEMENT

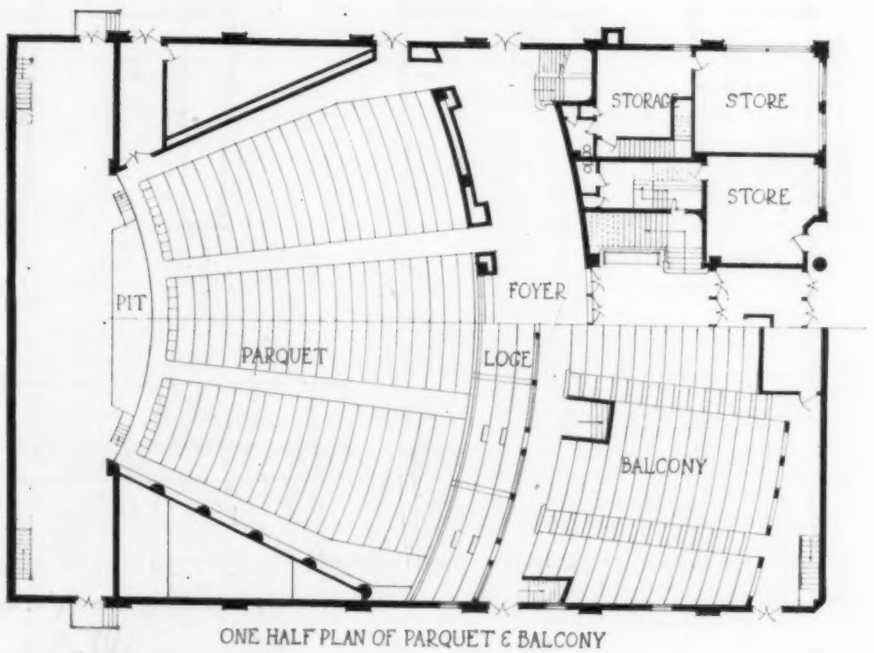
Preliminary Studies for a Small Motion Picture Theater in the Greek Style

J. H. Phillips, Architect

FRONT ELEVATION

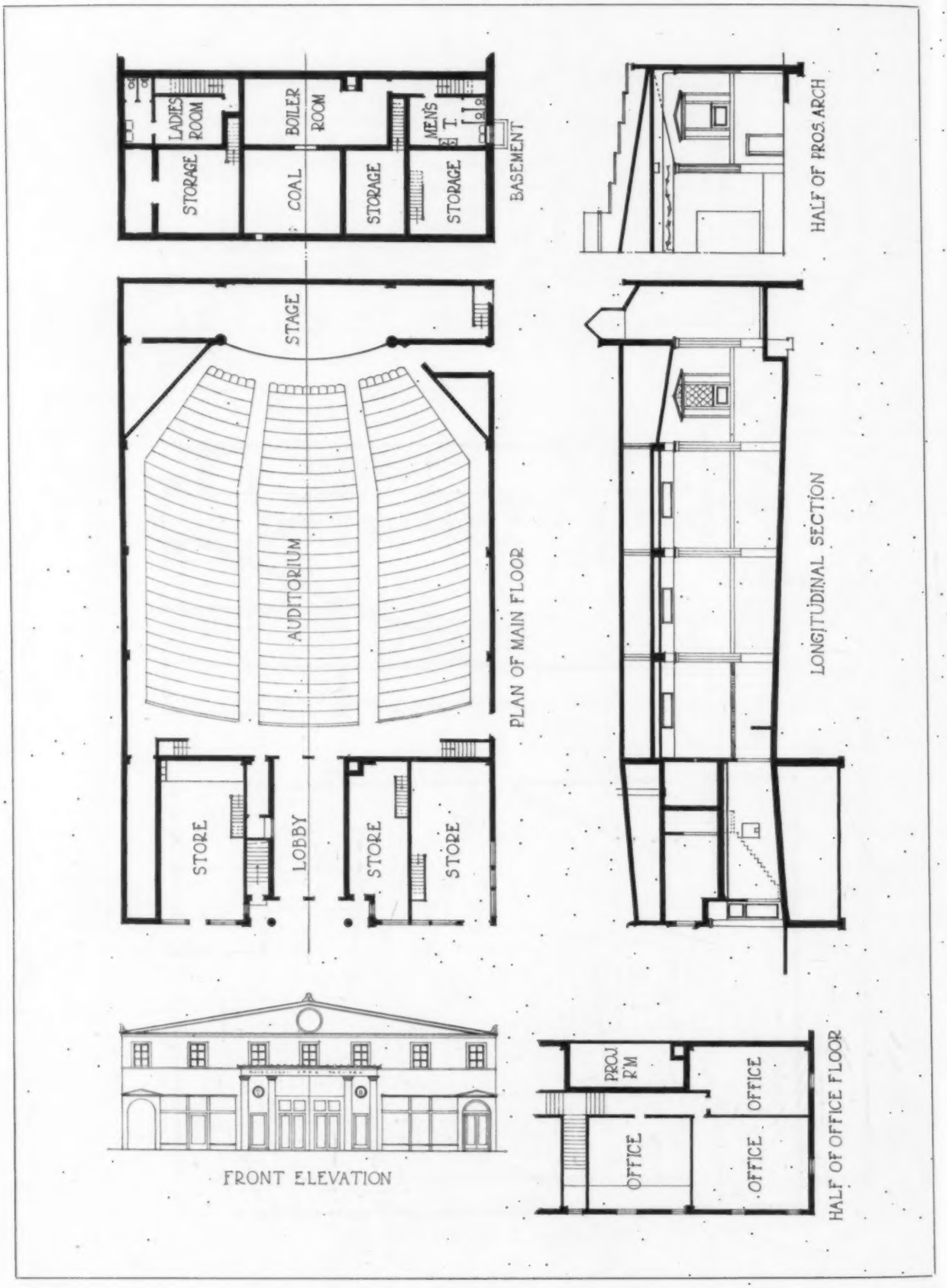


LONGITUDINAL SECTION



ONE HALF PLAN OF PARQUET & BALCONY

Preliminary Studies for a Small Motion Picture Theater in the Greek Style
J. H. Phillips, Architect



Elevation, Longitudinal Section, and Plans of the Basement, Main and Mezzanine Floors of a Motion Picture Theater for a Small Town

J. H. Phillips, Architect

morally, cannot be overestimated. The same care and study that have brought about the improvement in the public schools of our villages should be devoted to their playhouses, with the same good results.

The main idea in designing a small motion picture theater should be to give it domestic atmosphere, not only in its exterior expression, but in its interior as well. There are too many of them which are nothing more or less than barns, with metal ceilings, poorly ventilated, and having most uncomfortable seats. The influence and the effect on the theater-going public created by attractive and appealing surroundings, in which people may enjoy amusement and entertainment in an atmosphere of refinement, cannot be over-emphasized. It is one of the most important factors in the life of the country today. If the architect creates a design which has some resemblance to a fine old Colonial building, or to an Elizabethan manor house if this latter style is better adapted to the rural surroundings, he has performed a public service. There are many opportunities for designing beautiful buildings which stimulate the imagination more than does the conventional and stereotyped house, with its sign of blazing lights.

Today, the building laws of New York, and other states as well, give the architect very little opportunity for original planning. The Theater Guild Theater in New York is one delightful exception to this rule. Here no laws have been violated, yet an exterior and an interior as charming, as they are original, have been achieved. In the earliest European theaters are found the precedents from which the modern theater derives its inspiration, as for instance, the Drury Lane Theater attributed to Sir Christopher Wren, and later, the Garrick Theater, attributed to the Adam brothers. Both of these theaters had the interior appearance of private drawing rooms or salons of their days. This should be the aim in our modern picture houses;—the auditorium itself should exemplify the spirit of our life, not alone in the character of its decorations, but also in the simplicity of its architecture. Bright red velvet walls and seats, and gilt ornamented ceilings and wall paneling give a most garish effect. The theater manager seems to have the mistaken idea that this sort of gorgeousness is what the theater-going public wants. Not alone should the design of the auditorium proper be simple and interesting, but in the modern theater the stage as well should give the artist an opportunity to show all the genius, talent and imagination he possesses. The motion picture theater should be equipped with suitable furniture, mural paintings, and hangings. In fact the stage setting as well as the decorations of the auditorium should express the spirit of today.

In planning small theaters, stores are usually placed at either side of the entrance lobby, and offices are located above. This is the case in the Bellevue Theater, at Upper Montclair, excepting that instead of the lobby and stores on the ground floor and the usual offices above, a restaurant and large hall here take their places. The projecting bays of this small theater, in the English style, give an interesting variation to the flat, stereotyped facade usually

Proposed Motion Picture Theater at Mamaroneck, N. Y.
Davis, McGrath & Kiesling, Architects

found. The entrance lobby between the stores is designed to look like an old English shop front, in half-timber and brick. Panels serve for the display of advertisements, and a flagstone floor and old fashioned lanterns, used as lighting fixtures, still further heighten the English atmosphere. The foyer also has a flagstone floor and rough stucco walls. Oak paneled wainscoting is used in the main auditorium below rough plaster walls. For the ceiling treatment, the steel roof trusses are covered with oak to resemble heavy beams, instead of employing the conventional dome. The proscenium opening is marked only by a decorated painted border, similar to that of a tapestry, recalling some of the stage sets designed by Inigo Jones during the Stuart period.

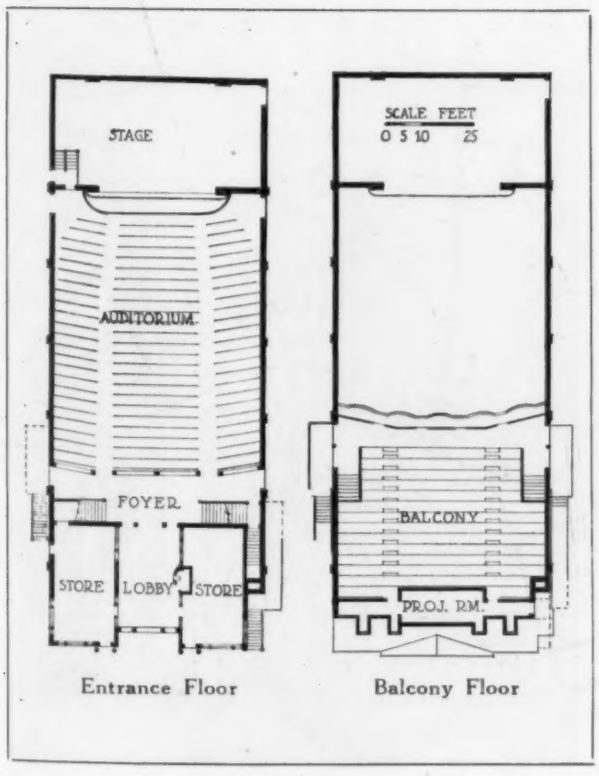
The location of the picture booth is also most important. Back of the gallery, where there is one, has proved to be the most satisfactory place, though in some instances it has been inserted in the gallery itself. This latter location is unsuitable, as the gallery always has more or less vibration, caused by the movement of the audience; and also, if the booth is not placed high enough above the aisle, shadows may occur on the screen. The more inconspicuous the picture booth and the more mystery secured in a picture theater, the better. Noise from the projection machine must be avoided as far as possible. Again, it is most important that the building be properly ventilated and heated. Many small theaters have no ventilating systems at all and are inadequately heated. Comfortable seats and proper sight lines are of the greatest importance. To make the first one, two or three rows in a balcony into loge seats or boxes, as in the Bellevue Theater at Upper Montclair, is a good idea. Private stairs at each end of the foyer lead up to these *parterre* or mezzanine boxes, which are divided off with balustrades, making them ideal for small theater parties.

A number of motion picture houses have recently been built in what is known as the "stadium" style, which has as its prototype the Greek and Roman outdoor theaters. This type of plan is very impressive and is well adapted for large picture houses; but it must be built on a large scale to be practical and effective, and the exits and entrances should be well studied out and arranged, otherwise this plan is rather confusing to the audience. In smaller houses, having seating capacities of from 600 to 700, it has proved to be more practical and to afford more comfort and intimacy to have a balcony. It is an interesting bit of history that the plays produced in the Greek open-air theaters were followed many centuries later by the miracle and mystery plays, which were given in the market places or in the courtyards of taverns, and that the buildings surrounding these places of theatrical production furnished the idea for the plan and design of theater interiors even today.

The Globe Theater, first of the theaters of old London, was built about 1576. It was a most interesting building, circular in plan, with a large platform set in the pit or center of the auditorium for a stage. With this for a setting, the genius of Shakespeare moved the people to wonder, and made the beginning of theater architecture one of the great achievements as well as one of the glories of the Elizabethan period. It is to be hoped that a marked improvement in the design of our small motion picture theaters will likewise be one of the great and glorious accomplishments accredited to the architects of today, and this improvement is sadly needed.

Stage and Organ Screens in the Bellevue Theater, Upper Montclair, N. J.
J. H. Phillips, Architect

THE BABYLON THEATER, BABYLON, N. Y.
J. H. PHILLIPS, ARCHITECT

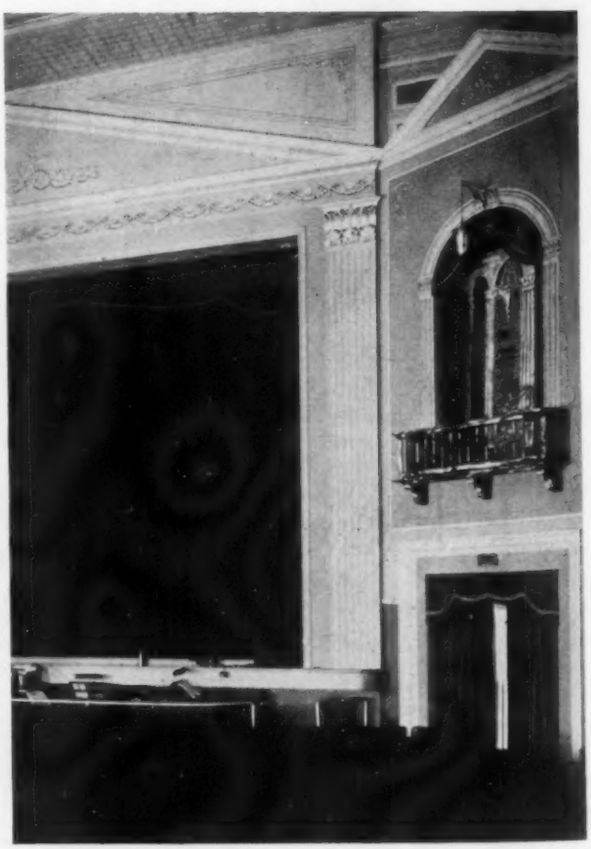


Entrance Lobby Showing Stairs to Balcony

General View of the Auditorium

SIMPLICITY and severity of detail mark both the exterior and interior of this attractive small theater. Brick walls with wood trim painted light gray, together with the slate-covered gambrel roof, give a decided Colonial feeling to the exterior, A white pedimented portico dominates and marks the center of the design and the entrance to the theater. The pleasant location between the outer columns of the portico of small doors leading into shops which balance the entrance portico is a happy plan, tying together as it does the shops and the theater entrance. Not only the windows on the second floor but also the dormers in the roof help to accentuate the informality and domestic character of this little theater. Offices, reached by an outside stairway at the right of the building, occupy the second floor over the entrance lobby and shops. Back of these offices are retiring rooms for men and women, with individual toilet facilities, each connecting directly with the mezzanine floor of the theater, which is decorated in a simple manner, by painting the trim, ceiling and walls different harmonizing colors. Designs and borders in fresco ornament the wall panels and pediments of the boxes and proscenium arch.

Fireproof construction was used throughout this theater, which seats 1,050 people and contains an approximate cubic footage of 279,125. The building cost $83,737 without interior decorations, organ, seats and the electrical equipment, in June, 1923.



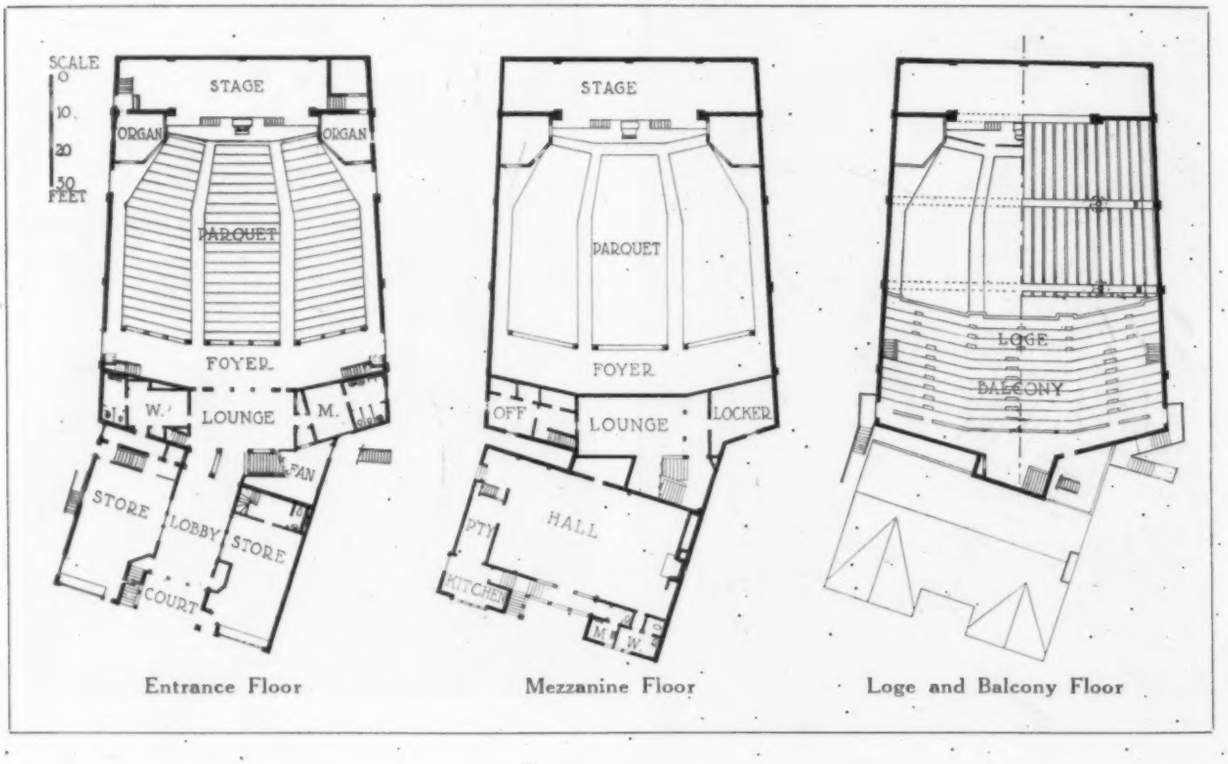
BELLEVUE THEATER, UPPER MONTCLAIR, N. J.
J. H. PHILLIPS, ARCHITECT

Entrance Foyer, Showing Stairs to Balcony

Detail of Organ Screen

Stage and Organ Screen from Orchestra

THE Bellevue Theater, at Upper Montclair, N. J., completed three years ago, is one of the most picturesque and unique sma'l motion picture theaters ever designed in this country. Containing 1,010 seats, of which 96 are in the mezzanine loge, this theater was built at a cost of approximately $168. per seat. The construction is fireproof throughout the entire building. On the first floor, flagstone is used for paving the lobby and foyer, and cement on reinforced concrete for the auditorium and balcony. The windows in the theater have metal frames and sashes; wood frames with leaded glass are used in the upper front windows, and wood frames and muntins are used for the shop windows.

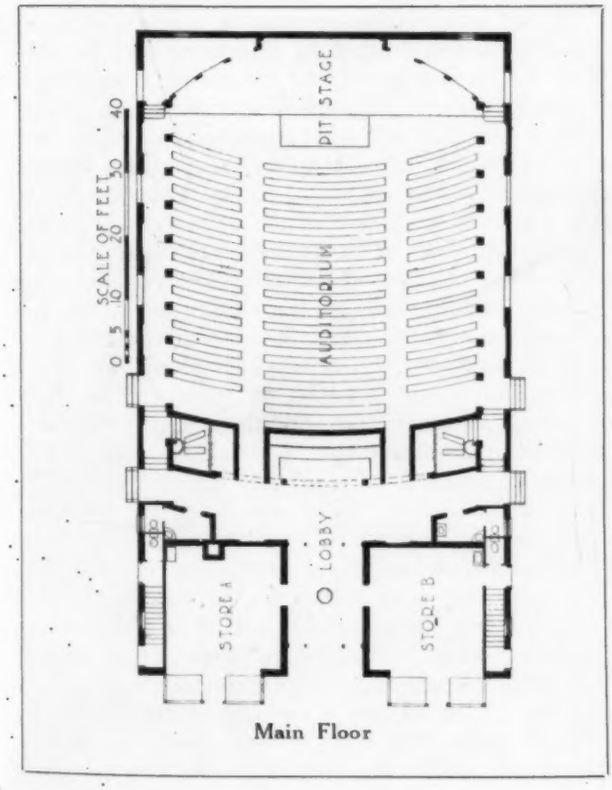


Entrance Floor

Mezzanine Floor

Loge and Balcony Floor

THE PLAYHOUSE, NEW CANAAN, CONN.
DAVIS, McGRATH & KIESSLING, ARCHITECTS



Main Floor

THE town of New Canaan, Conn., is indeed fortunate in possessing so original and attractive a motion picture theater as "The Playhouse." Every detail of this charming Colonial building shows refinement and study. The deep recess of the center archway, which emphasizes the entrance to the theater, is pleasantly balanced on either side by projecting shop fronts, designed in the English style, with small panes of glass. Above each of these shop fronts two windows still further express the character of the building by their small panes of glass and green painted paneled shutters. Red brick and wood trim painted white are used for the exterior of the building. The well studied cupola of suitable size adds much interest to the design, as do also the roof railings and ornamental cornices. The center panel of the railing serves excellently as a signboard for the theater. No clumsy or projecting electrical sign mars the simple dignity of this building. Ornamental bulletin boards at either side of the main entrance to the theater provide sufficient and proper space for present and future picture programs. Concrete floors, brick interior walls, and stucco ceilings on wire lath provide the necessary fireproof elements in the construction. The trim and window frames, both inside and outside, are of wood painted.

The interior architectural design shows remark-

View of the Stage from the Auditorium

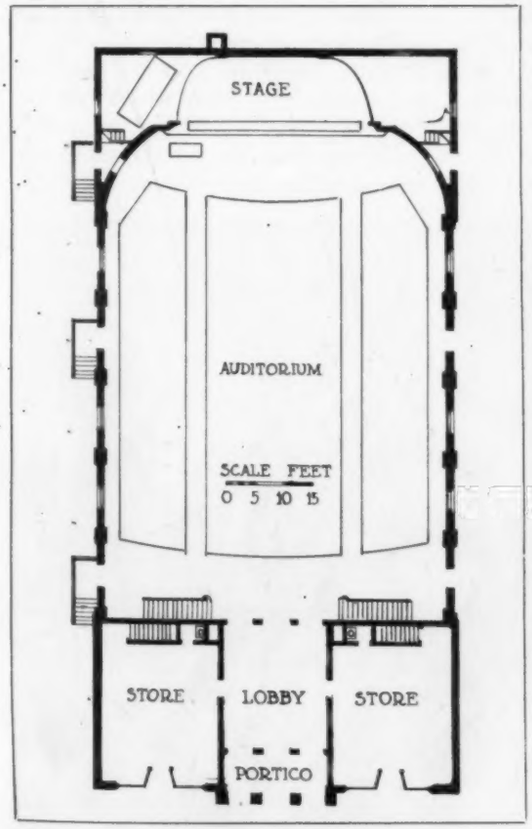
able originality and merit. White painted pilasters and piers, carrying a heavy entablature, together with an interesting balustrade immediately under the picture screen, form a color contrast with the carefully laid red brick walls. The slightly curved ceiling adds height and dignity to the auditorium, while the introduction of a low front stage across the entire proscenium is an unusual and successful treatment. Even the center chandelier of wrought iron accords with the simple decorative quality of the entire design, emphasizing the pleasing rural note which dominates the building. Likewise the plan is compact, balanced and well studied. A spacious entrance lobby leads into a wide foyer, off which entrances lead to the auditorium, stairs to the balcony and exit doors to outer courts on either side of the building. Four aisles and six exits make it possible to empty this small theater in a remarkably short time. When such a charming example of motion picture theater architecture as this is found, the question always comes to mind why more attractive small theater buildings are not designed. Experience has shown that a small building well designed costs no more than a small building having no architectural merit. It is not, after all, a question of material and construction, so much as it is the architectural ability and appreciation of the designer that actually count.

Above each of the front shops a spacious apartment is located, reached by a separate outside stairway. A shallow balcony or mezzanine, containing a number of boxes for small theater parties, is located at the entrance end of the auditorium above the foyer. Another unusual as well as practical feature of this small theater is the outside aisle, extending the length of each side of the auditorium, suggesting the side aisles of an old fashioned meeting house.

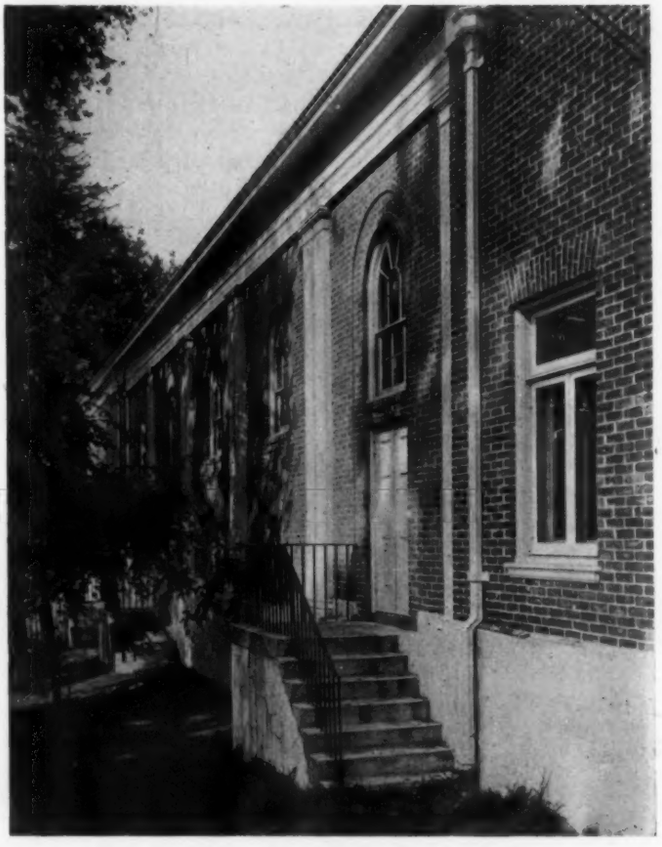
The use of exposed but carefully laid brickwork for the interior walls of the auditorium is perhaps unusual, but in this case it adds to the effect of rugged simplicity and solid construction. The use of simple draperies in the openings between the pilasters and for the curtaining of the screen itself, gives a pleasing decorative note in which the color of the draperies contrasts harmoniously with the red of the interior brickwork. This use of interior architectural detail and material for the theater interior is well handled and satisfactory in effect. If the ceiling were movable, as is sometimes the case in theaters located in warmer climates, this interior architectural treatment would be still more appropriate. The low and shallow front stage is quite suitable here.

This ideal small theater, containing approximately 168,000 cubic feet, and 500 seats, was finished in September, 1923, at a cost of about $100 per seat.

THE RYE THEATER, RYE, N. Y.
HARRY LESLIE WALKER, ARCHITECT



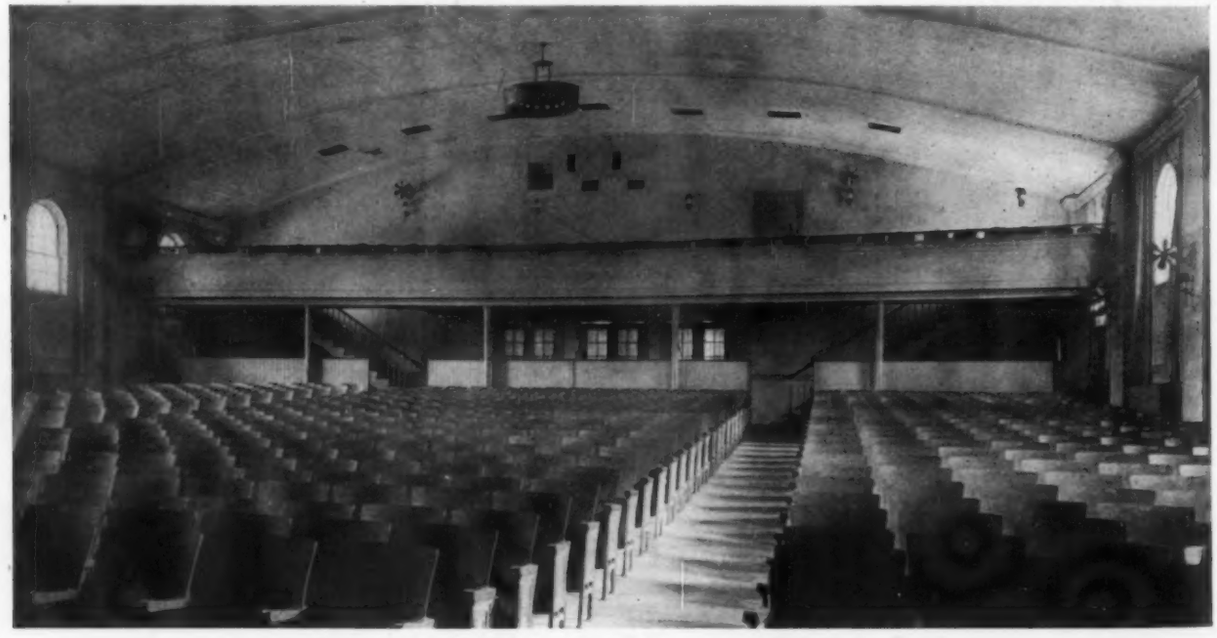
Main Floor



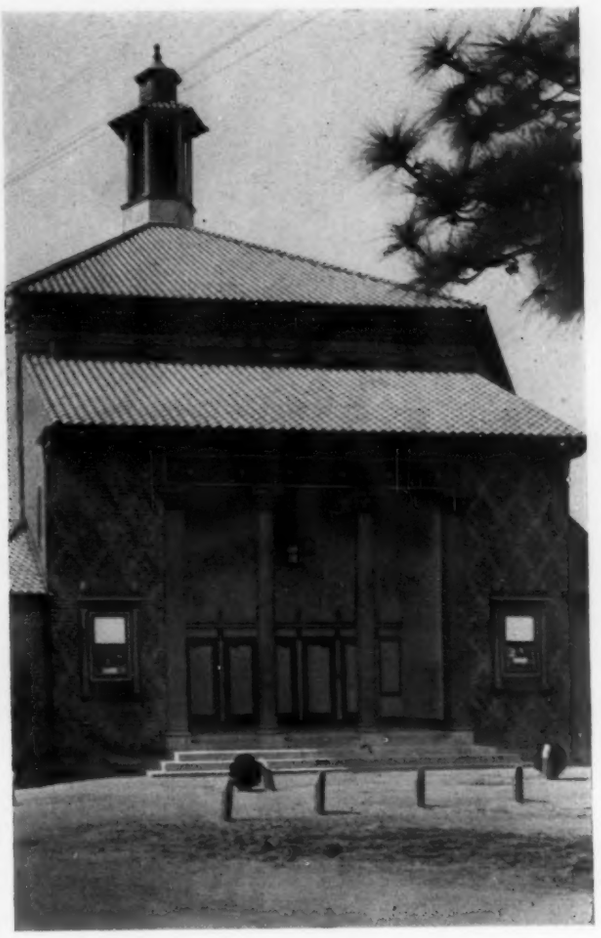
Detail, Showing Side Exits from the Auditorium

View Toward the Stage in the Auditorium

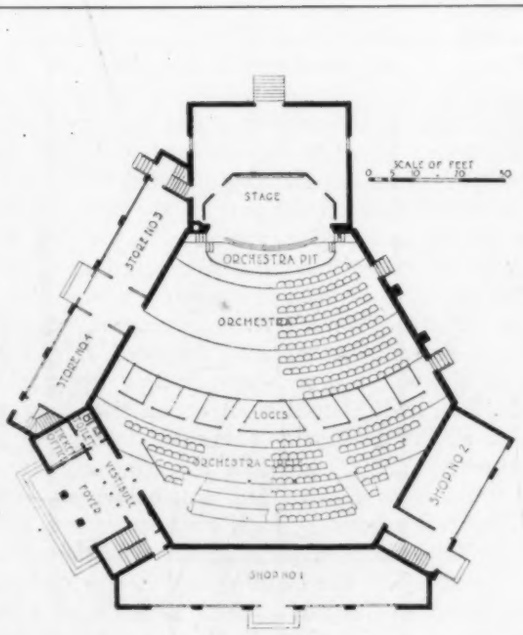
OF the thousands of motorists who pass over the Boston Post Road every year, there are probably few who have not noticed the attractive small motion picture theater on the main street of Rye, N. Y. Built in the Colonial style, with a graceful entrance portico suggestive of "Homewood," this little theater possesses unusual refinement of detail and charm of proportion. A spacious shop on each side balances the main entrance to the theater. It is rather a pity that the architect was not permitted to use small panes of glass in the lower parts of the shop windows, as well as in the transoms. The low hip roof, covered with gray slate and surmounted by a delicately designed open cupola or belfry, forms a pleasant crowning feature to this Colonial design. The building is of red brick with wood trimmings, painted white. Slow-burning construction was employed; wood frames, double-hung, were used for the windows, and the cement floor, which rests on concrete, was covered with linoleum in the auditorium. Seating 650 people, this little theater cost $90,000 when completed in the summer of 1921.



View in the Auditorium Toward Entrance and Balcony



MOTION PICTURE THEATER, PINEHURST, N. C.
AYMAR EMBURY II, ARCHITECT



Main Floor

THERE is probably no more unique or original small "movie" house in the country than this theater at Pinehurst. The hexagonal plan is as unusual as is the Italian design of the exterior. A high recessed portico with columns and pilasters supporting a richly decorated frieze panel on Corinthian capitals gives a foreign effect to the entrance facade. The main walls of the building are of red brick laid up in a diaper pattern, surmounted by an interesting brick cornice reminiscent of Renaissance brickwork in northern Italy. The green glazed Spanish tile roof and tall cupola further accentuate the suggestion of Mediterranean architecture. Tall arched windows break the side walls of the theater auditorium above the low, one-story shops on either street front. The exterior of the building shows a remarkable architectural consistency and uniformity, expressing as it does, in outline as well as in detail, the plan and purpose of the interior. The hexagonal plan shows sides of unequal length, necessitated by the shape of the auditorium.

The entrance foyer and vestibule, containing ticket office, toilet and a stairway to the balcony, is located on one of the shorter sides of the plan, providing entrance to the orchestra at one side instead of at the center. A deep orchestra circle with a

Detail Showing Arrangement of Shops Around Theater

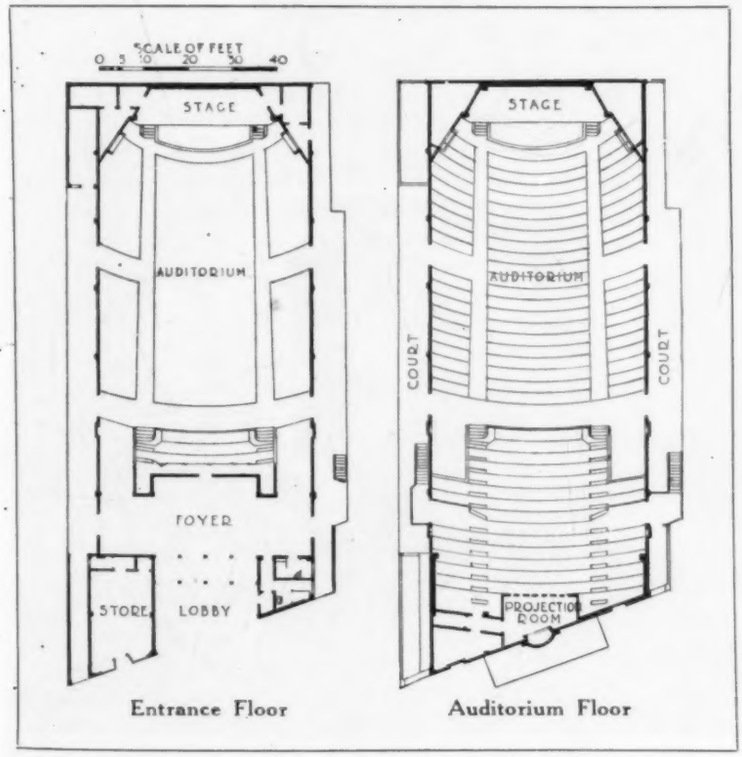
mezzanine loge above occupies the rear of the theater. Although intended primarily for motion pictures, the stage affords sufficient depth, with a large scene and property room at the rear, to make it suitable for legitimate drama as well as for motion pictures. Spacious exits occur at intervals in the side walls of the auditorium, and separate, enclosed stairways lead to the balcony above the orchestra circle, providing ample means of exit, whether required by emergency or customary use.

Particular attention should be called to the logical and attractive use of cement, combined with brick, on the fronts of the lateral, one-story shops, in which the windows and the center entrance door are unusually well designed and proportioned. Small panes of glass give scale to these openings as they do also to the arched windows in the wall of the theater auditorium above. The roofs of these shops are of slope similar to that of the roof of the main building and are also covered with green glazed Spanish tile. The gayly colored striped awnings and painted side doors add further to the festive character of these one-story shops. At the front of the theater, the plaster walls of the open entrance portico as well as the screen-like effect, painted black and white, of the entrance doors themselves, give interest and dignity to the design. This is further enhanced by the ornamental and successfully designed bulletin boards on either side of the entrance portico. Here, twisted colonnettes, supporting delicate entablatures capped by pineapple-like ornaments, accentuate the Southern Renaissance character of the design.

Seldom has the problem of designing a building erected for business purposes been more successfully solved. For the irregularity of the lot, a very unique and practical plan has been evolved, and there were developed elevations showing unusual resource and architectural skill on the part of the designer, who has already achieved a nation-wide prestige as a designer of country houses. Designed as a small town theater, to be used primarily by winter visitors to this southern resort, the construction employed was fire-resisting rather than fireproof. The floors are all of wood, laid on heavy timbers supported by brick piers, and the roof construction also shows the use of similar material. The cubic footage of approximately 230,000 provides a seating capacity of 780. No cost figures are obtainable, since the building was erected by local contractors, and without the supervision of the architect. As the cost of the site on which the building stands was undoubtedly not excessive, and as four shops form a part of the layout of the plan, the revenue obtained from the motion picture theater itself and from the shops should be sufficient to make a very adequate and satisfactory return on the amount of money invested.

BAY VIEW THEATER, SAN FRANCISCO

CHARLES F. STROTHOFF, ARCHITECT; G. F. STAHLBERG, ASSOCIATE ARCHITECT



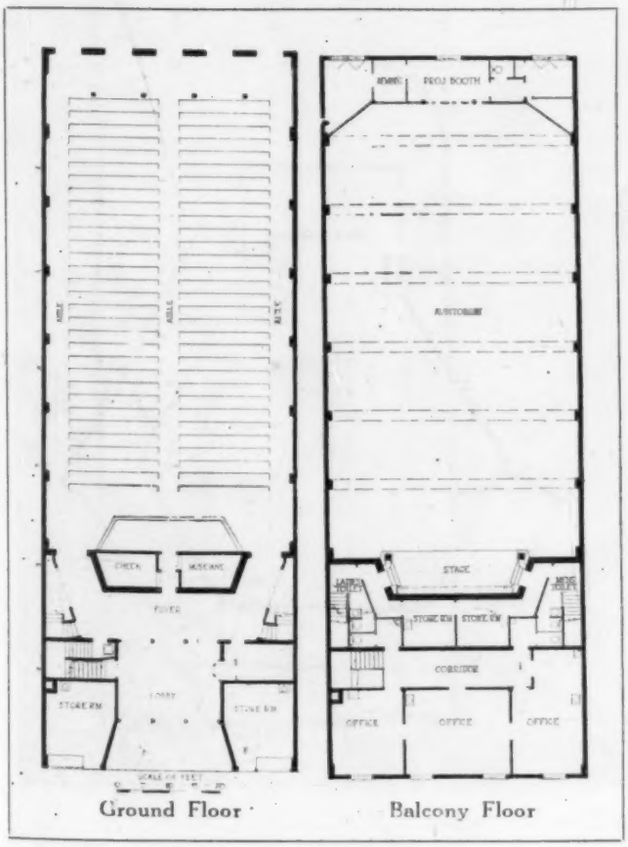
QUITE appropriate to its location on the Pacific coast, this little motion picture theater shows an attractive facade in the Spanish style, a facade well balanced and interesting because of the sparingly used and well placed ornamentation. Appropriate emphasis is given to the main entrance of the theater by the spacious recessed lobby, further sheltered from the sun and the weather by a metal awning or canopy, below which appears, unobtrusively and unobjectionably, the necessary electrical signboard. The entrance loggia is balanced by small shops, in the windows of which use of small panes of glass is unfortunately confined to the transoms.

Fireproof construction is used for this little theater, with oak and Oregon pine for the trim and other wood details of the auditorium. Having a seating capacity of 890, this theater containing 192,448 cubic feet cost, without the organ, chairs and furnishings, but structurally complete, $58,000 at the time of its construction in the autumn of 1924.

Entrance Foyer

General View of the Auditorium

MANTE'S THEATER, IRWIN, PA.
DOUGLAS O. ELLINGTON, ARCHITECT



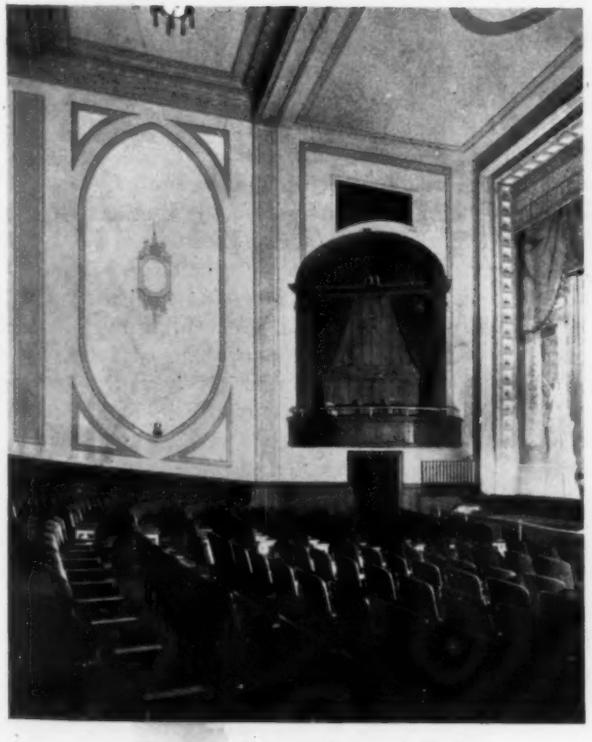
IT is a reassuring sign of a better appreciation of the value of good architecture when a small motion picture theater in a suburban town is found to be designed by an architect of extensive training and recognized ability. Here freshness of architectural expression goes hand in hand with frankness and simplicity of plan, producing a little theater distinctly individual and worthy of note. Thoroughly unpretentious, erected at a very modest cost, and seating 700 people, this new picture theater, occupying 170,000 cubic feet, steps forward out of the motley ranks of the ordinary to proclaim the charm that is invariably achieved when sincerity and naturalness join hands. At a glance one is impressed with the wholesome originality, simplicity and good taste which characterize this building. Straightforward lines, balanced proportions, and pleasing colors, which the illustrations cannot even suggest; economy without cheapness; directness of arrangement; comfort and convenience,—all combine to securing the success of this theater.

The plan takes advantage of the natural slope of the property, resulting in a seating arrangement which is the reverse of that in general use. From a deep and spacious lobby the auditorium is entered on either side of the proscenium arch and orchestra pit, and not at the opposite end as is usual. This arrangement is highly successful.

General View of the Auditorium

Detail of Stage, Showing Entrance on Either Side

THE MEDFORD THEATER, MEDFORD, MASS.
M. A. DYER, ARCHITECT



Detail of Proscenium and Wall

Detail of Entrance Door

General View of the Auditorium

ALTHOUGH this little theater was built nearly eight years ago, it stands today as an unusually fine example of a small, simple and dignified design. The exterior facade, following the Colonial style, shows three bays, emphasis being laid on the center bay, which is flanked by Corinthian pilasters and contains the entrance to the theater. A simple canopy, surmounted by an electrical sign, which the architect was forced to place there, is not objectionable in the simplicity of its composition, but by its entire omission the Colonial charm of this pleasing facade would have been greatly enhanced. Glass and metal marquees and canopies can never be consistently used on buildings designed in the Colonial style, but they are invariably demanded by theater owners and managers, regardless of appearance. The side bays, which are nearly twice the width of the center bay, contain stores on the street level, with graceful, well proportioned Colonial arched windows breaking the brick walls above. A heavy entablature above the shops gives a pleasant English touch, which would have been further accentuated had small panes of glass been used for the shop front windows. However, the architectural effect of the entire facade, on the whole, is successful and pleasing, built of materials well suited to its style.

Entering through the shallow lobby, one is impressed by the dignity, scale and simplicity of the auditorium. Practically no architectural decoration is found other than in the ornamental mouldings of the proscenium arch and the ceiling cove. The two proscenium boxes are severe to the point of austerity, but they harmonize well with the pleasingly stiff design on the frescoed walls. There is almost a suggestion of Victorian primness in the simple wall decorations, which afford a grateful relief after the over-ornamented and over-colored interiors of the larger modern motion picture theaters. The space above the left hand proscenium box is enclosed in simple fashion to conceal the organ. Even the quaint, be-tasseled draperies of the proscenium curtain are reminiscent of the best parlor curtains of 1860.

The plan can easily be made out from the accompanying illustrations. The entrance lobby, balanced by a shop on either side, leads directly to the auditorium, which has a balcony seating about 450. Exit doors lead out into courts on either side. Above the stores and lobby there is located a ball room, extending across the entire front of the building.

Fireproof construction was used throughout this small building, with the exception of the interior of the auditorium, where wood was employed for the detail of the boxes, wall wainscoting and door trim. The floor of the auditorium is reinforced concrete. Having a seating capacity of 1,400, this very complete building cost $65 per seat when built in 1917.

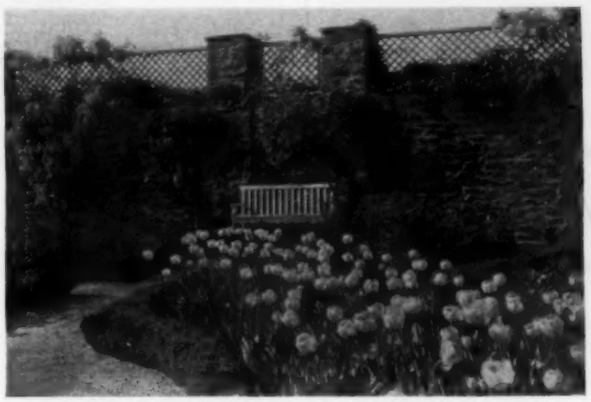
BOOK DEPARTMENT

Making the Most of the Garden

A Review by ROBERT WHEELWRIGHT
Professor of Landscape Architecture, University of Pennsylvania

IF I have neglected entirely the subject of bugs and diseases in this book," * * * * so starts the preface in Mr. Lay's "Garden Book," presaging something different from the usual. I almost regret that he didn't omit plant lists also, as great a pest in garden books as bugs in gardens, for I do not feel that the book would have suffered without such lists, and by such reduction in bulk there might have been a like reduction in price. The advantage would have been less chance of delay in its purchase, a matter that most assuredly should not involve any great hesitation.

Have you ever read Charles Van Dyke's "Nature for Its Own Sake"? I felt at times as if this were a companion book, for there appears a sympathy of attitude toward nature that brought Mr. Van Dyke's book to my mind, a poetic appreciation and expression all too rarely present in garden books of today.



Tulips and Wistaria in a Walled Garden
Illustration from "A Garden Book for Autumn and Winter"

Especially valuable because of the stress laid on design, every amateur of gardens will profit by the reading of Mr. Lay's book, though they may, like myself, find an occasional point of disagreement. One which cannot be overlooked is the statement that "there was a tendency in the past to emphasize usefulness too much in garden design,—to say that perfect adaptation to *use was a determining cause of the beauty* of the (clipper) ship or of anything which showed such perfect adaptation." What was said, if recollection serves me rightly, was that "completeness of physical organization *to serve economic needs* (of man) produces æsthetic pleasure," which excludes the example he introduces to disprove this theory:—the hippopotamus, (which is comical enough as we see him, but nevertheless might be an object of beauty in his native haunts. Perhaps overemphasis in the past *has* been placed on usefulness, but I should rather say utility, for has not æsthetic pleasure its usefulness? What more important than necessary pleasure?

As the reader continues he will find statements appearing that make him stop and think, with doubts perhaps, as this specific statement brought to me, but *he will think*. This fact alone makes Mr. Lay's book one of unusual merit, for we certainly benefit more from reading matter that causes us to think, than from a mere recalling of ideas or facts. In the ordinary giving of facts also I find a distinctive treatment; for example, in the chapter entitled "Preparing for Winter," we do not find the usual cut and dried directions, but rather a pleasant giving of a list of duties to be done, stimulating thought rather than specifying action appropriate to the season.

I should not fail to speak of the importance of Mr. Lay's remarks on some of our native trees and shrubs, in which he strengthens his appeal for their wider use by appreciative descriptions that are bound to stimulate popular interest, especially in the unappreciated beauty of our deciduous trees in winter. The uninteresting autumnal color of many European trees, as compared with the brilliant coloring of some of our natives, should certainly affect us in our selection. Though Mr. Lay cites the example of seeing a Virginia Creeper in England, I wonder if all our plants that turn to yellow and scarlet would retain that characteristic when grown in a land of different climatic conditions. It would seem not at all unlikely, when we find the reverse to be true and a lack of brilliance in European trees grown here. Still, I suspect that climatic conditions are partially responsible, and that autumn in Europe would not bring so hearty a response in color as comes annually in America.

The fallacy, or to quote, "the sentimental obsession," of planting trees in such a way that permits full development of each as an individual, the danger of planting too many varieties, and the "promiscuous planting of specimen evergreens," are among matters treated in the chapter entitled "Autumn Color; Trees," while "Work on the Trees" would be admirable preparatory reading for the man who is considering the employment of the services of a tree doctor, services which are often necessary.

How much truth lies in Mr. Lay's statement that talk of "the joy of working in the garden is subterfuge, and that the real reason is that we thereby gain for ourselves all the satisfaction of managing the garden and the fun of determining how and when everything shall be done!" With some this may not be true, but I must acknowledge its truth so far as I am concerned, and so would many.

In addition to the chapters specifically alluded to, I would commend especially those entitled "The Garden Itself"; "Style and Expression"; "The Woods and Thickets in Winter," and "The Spirit of the Landscape."

A GARDEN BOOK FOR AUTUMN AND WINTER. By Charles Downing Lay, 303 pp., 6¾ x 8½ ins. Illustrated. Price $4 net. Duffield & Co., 211 East 19th Street, New York.

Spanish Details

A Highly Practical Work on the Spanish Renaissance

By William Lawrence Bottomley

IN this volume there is presented a collection of illustrations and measured drawings of carefully selected details of Spanish Renaissance architecture. The work of a New York architect who has been notably successful in attractive use of Spanish motifs in his own practice, the volume presents not so much work of a striking and magnificent character as what is comparatively moderate in scale and therefore adaptable for present-day use in America.

The volume is replete with illustrations of well chosen, simple Spanish facades, doorways, windows, balconies, balustrades, exterior stairways and the grilles of wrought iron or carved and turned wood which are used at gates, windows and doorways. Interior details include the arcades of patios, ceilings, chimneypieces, floors, doors, shutters, wall fountains, etc., and since in most instances the illustrations are accompanied by measured drawings the reproduction of these details is not difficult.

Of all the recent works on the Spanish Renaissance this is perhaps the most practical for actual use.

Frontispiece in color; 104 plates and measured drawings, 11 x 13¾ ins. In portfolio form, $12.50; if bound, $15.

ROGERS & MANSON COMPANY

383 MADISON AVENUE NEW YORK

ECONOMY IN HOME BUILDING. By Oswald C. Hering, 210 pp., 7 x 10 ins. Price $5 net. Robert M. McBride & Co., 7 West 16th Street, New York.

BUILDING before the beginning of the World War period now seems to have been characterized by considerable carelessness and much reckless disregard of economy; it has required conditions such as have prevailed during the past few years and prevail today to focus the attention of architects, builders, and home owners themselves upon means by which there may be secured the maximum in economical building;—upon a really effective scrutiny of the matter and discovery of methods by which the utmost may be had from a building appropriation.

Much of the progress which has been made in this direction is due to the publication of a number of excellent works upon the subject, of which this volume by Mr. Hering is among the most useful. Probably because his domestic work (always good in itself) has always been characterized by practical economy, his study upon what might be termed "intensive economy" in building comes with authority and force. The work, the introduction says, is "for the purpose of telling the home builder and the inexperienced young architect how attractive and economical homes may be designed and built," and all this it will undoubtedly do. A valuable chapter deals with the important matter of alterations.

THE ARCHITECTS' LAW MANUAL. By Clinton H. Blake, Jr. 25 pp., 6 x 9 ins. Price $5. The Pencil Points Press, 19 East 24th Street, New York.

ARCHITECTURE presents countless points of contact with other professions and with business which make necessary the observance of certain laws. In fact architecture itself, while ranking as a profession, is in one sense also a business which maintains relations with clients and with national, state or municipal governments and possesses wide ramifications into fields where dealings with contractors and subcontractors of every kind are necessary. At every step an architect must be quite sure of his ground and of his relations to his clients, as well as to the many individuals with whom he sustains relations either upon his own account or upon that of his clients. Architectural law, indeed, is developing into a department of law all its own, and like admiralty law or real estate law, with which it has much in common, it is being classified, systematized and tabulated. Along with the development of architectural law there is growing up a body of men devoted primarily to its practice, and Mr. Blake, who has made a successful study and practice of this branch of legal effort and has lectured widely regarding it, here sets forth some of its principles.

The broad scope of the work might be best indicated by giving the headings of some few of its chapters:

The Business Side of Architecture.
Contract Between Architect and Client.
Contract Between Owner and Contractor.
Representations or Guarantees With Respect to Costs.
Acting as Contractor or Principal.
Sketches and Plans.
The Title to the Plans.
Supervision.
Competitions.
The Lien of the Architect.
Dealing With Corporations and With the Government.

HOUSING PROGRESS IN WESTERN EUROPE. By Edith Elmer Wood. 210 pp., 5½ x 8 ins. Illustrated. Price $3. E. P. Dutton & Co., 581 Fifth Avenue, New York.

THERE are many reasons why the question of what is broadly termed "housing" is coming more and more to the fore. Social workers realized long ago that there exists a definite relation between an individual's living conditions and his value as a citizen; between his physical health and his efficiency as a workman; and public opinion was startled and appalled at results which surveys in European countries as well as in America revealed as to living conditions. Then again, the growth of vast manufacturing plants, often situated in places far remote from large towns or cities, has sometimes necessitated the building of entirely new villages as places of residence for the workers, and the excellent business judgment which led to the establishment of these villages demanded the utmost in their planning and construction. Still another reason is to be found in the many forms of effort developed during the World War, for in many instances entire villages have sprung up, in what were waste places, for housing employes of vast government plants, and of course the necessary replacing of towns and cities in the devastated regions of France and Belgium has involved much rebuilding, and governments have not been slow to profit by the lessons taught by similar building elsewhere.

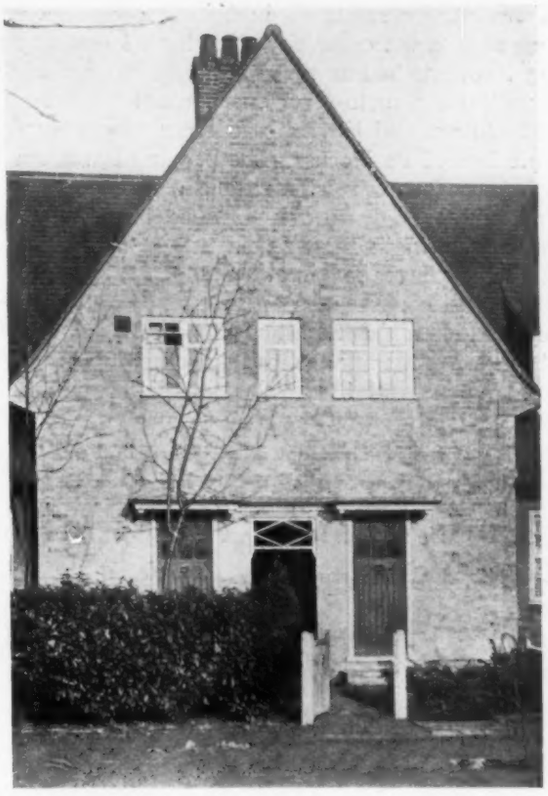
In America as well as in almost every country of western Europe the housing movement has now been under way for a period sufficiently long to give evidence of the ways in which it is being handled, and in this volume Mrs. Wood, who has made during several years a study and examination of housing, sums up and presents results by which housing progress in several European countries is compared. The results attained in Great Britain, and particularly in England, are especially interesting because conditions there are in many respects similar to those in the United States. Much has been accomplished in Great Britain by philanthropy, often disguised in various ways, and Mrs. Wood says that in the matter of financing housing enterprises and in the making of out-and-out gifts by wealthy individuals more has been done in Great Britain than in any other country, and indeed more than in all other countries put together. State aid, too, supplied in one form or another, has been a factor in developing housing. Apart from its economic aspect, English housing, possibly by reason of the length of time during which it has been developing, is interesting in many ways. It is admirable in its planning,—planning of entire villages as well as of individual houses or tenements,—and it excels by reason of its design which well expresses well settled English architectural tradition.

The volume also reviews the progress of housing movements in France, Italy, Holland, Belgium and other European countries, giving in each instance a résumé of the legislation under which it has developed, and illustrations which are included show that each country clings tenaciously to its historic types of design.

It is surprising and disappointing to find that in the writer's opinion the United States is far behind other countries in the progress of its housing developments. It might be supposed that with many excellent examples of model city tenements and suburban or country indus-

Small Houses for the Community

By C. H. James and F. R. Yerbury
Foreword by Raymond Unwin



ENGLISH architects have been particularly successful with their handling of the "small house problem," whether the small houses be individual buildings or in the groups which are usual when a number of houses are erected by some one interest or by some industrial concern for housing its employes.

This book gives an excellent presentation of the best of such work, illustrations of the exteriors and interiors of houses of various types and materials and the floor plans making plain the results of economy of material and floor area which present-day building conditions demand. A valuable summing up of a subject which is of interest to architects everywhere, particularly to those whose work is largely of a domestic character.

Text, 140 Halftone Plates and Appendix, 10x12 ins. Price 31s, 6d.

ROGERS & MANSON COMPANY
383 MADISON AVENUE NEW YORK

trial plants our achievements would compare at least favorably with those of other countries, but such is not the case. Mrs. Wood says: "I have made a point of seeing, under the guidance of visiting nurses or rent collectors or other competent persons, examples of the worst houses that remain in London and Paris, and also, more hurriedly, in other French and English, as well as Dutch and Belgian cities. And I can assure my fellow countrymen that I have nowhere seen houses even remotely comparable to the ten thousand old-law tenements of lower Manhattan, built before 1879, with their hundreds of thousands of inhabited rooms devoid of any opening to the outer air. Nor have I seen any surviving layout as bad as that of the North End of Boston, with its four-to-seven-foot streets between five-story buildings and labyrinths of rear tenements filling the interiors of its blocks. The people of western Europe have undertaken national housing schemes, not because their need is greater than ours, but because they are more convinced than we are of the importance of good housing in the making of good citizens, and of the obligations of communities in connection with the house supply. Public opinion on housing questions in Europe is at least a generation ahead of ours in the United States. We are still discussing points which they settled 40 years ago. Accustomed to regard America as a synonym for progress, Europeans find it hard to believe, for instance, that we still cling to the exploded theory that supply and demand, in the long run, can be relied upon to produce satisfactory homes for working people."

CHURCH BUILDING. A Study of the Principles of Architecture in Their Relation to the Church. By Ralph Adams Cram. Third Edition. 345 pp., 6 x 9 ins. Price $7.50. Marshall Jones Company, Boston.

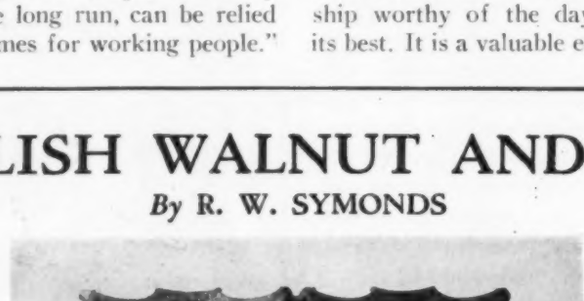
SINCE the appearance of the original edition in 1901, Mr. Cram's excellent volume on church architecture has been the best known and most authoritative work on ecclesiastical building in America. No one else has made so thorough a study into the history and development of American church building; there is no one so wise, unerring and resourceful in diagnosis of its ills, and no one perhaps so skillful in the treatment of its disorders as the architect whose name is so closely associated in the public mind with ecclesiastical architecture that it is mentioned whenever church building and the arts which enter into church building are discussed.

This new edition of "Church Building" differs from the earlier editions chiefly in being more complete. In a final chapter, "25 Years After," Mr. Cram surveys what has been done during these past years and finds that marked advance has been made not only in ecclesiastical architecture proper, but also in all the allied arts which serve architecture and aid so powerfully in securing its triumphs. In order that this advance may be made visibly apparent the illustrations of this new edition are very largely of work during the past 10 or 15 years, illustrations which show the exteriors and interiors of buildings which would have done credit to the best eras of ecclesiastical architecture and examples of craftsmanship worthy of the days when craftsmanship was at its best. It is a valuable edition of a highly valuable work.

OLD ENGLISH WALNUT AND LACQUER

By **R. W. SYMONDS**

QUITE as important in many types of architecture as interior design is the planning of furniture which goes with it. For each of the historic styles there were designed accessories which by being in agreement and harmony with their surroundings aided in creating the effect which the type made possible, easily marred by use of furniture unsuited to the surroundings.



With the architecture of no country or period was there used furniture more beautiful and distinguished than in England during the late Stuart and the early Georgian eras. Attracted by economic opportunities, the most skillful designers in Europe planned furniture which was built by the most finished of craftsmen. This was the "Walnut Age," during which were made masterpieces in walnut, and intercourse with the East brought the use of lacquer, also fashionable, and imitated presently by English workmen.

WRITTEN by one of the foremost students of English furniture, this work covers fully and completely the subject with which it deals. The design of furniture, its structure and its ornament, whether carved, inlaid or lacquered, its finish, and the care which furniture should receive are fully discussed, and there is given advice as to the identifying of old pieces and the detection of modern copies of old English furniture often sold as old to the unwary.

Intended for the furniture maker almost as much as for the designer, student or collector, the volume contains diagrams showing the details of joining, varieties of inlay, types of stretchers and spirals, and perhaps the most valuable feature of the work is the large number of excellent illustrations showing furniture of all the different kinds—bureaux, tables, chairs, stools, settees, cabinets and clocks developed in walnut or lacquer.

Fully Illustrated, 176 Pages, 9x11 Inches, Price $8.75

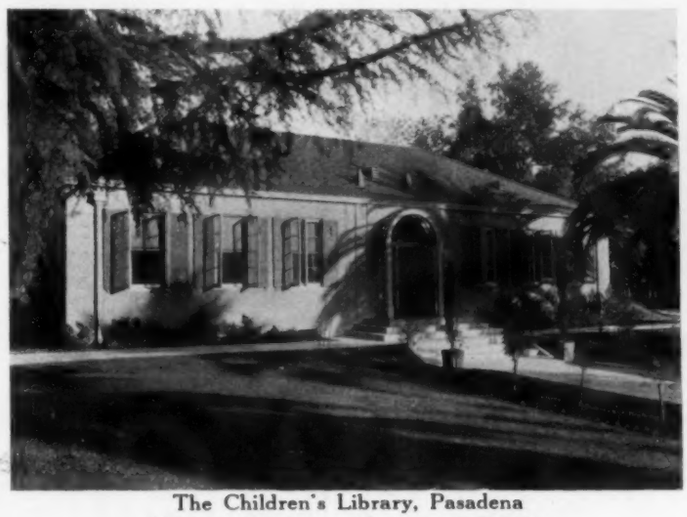
ROGERS & MANSON COMPANY, 383 Madison Avenue, New York

BOOK DEPARTMENT

A Valuable Study of the Small Library

A Review by JOHN ADAMS LOWE
Assistant Librarian, Brooklyn Public Library

THIS volume is a concise presentation of the best current practice and experience of librarians regarding library buildings, by an authority on the subject and intended for library trustees, building committees and architects. It is a record of experience rather than an historical treatise. The author was for three years secretary and organizer of the Indiana Public Library Commission, for 13 years librarian of the Denver Public Library, and is now librarian of the Cincinnati Public Library. He has served the American Library Association as its secretary as well as its president. He possesses unusual ability in planning buildings which are economical to administer and pleasing in architectural design, as is manifest in the branch library buildings in Denver. The particular value of this book to architects lies in the fact that the author emphasizes from a librarian's standpoint many features in the details of library planning which differ materially from building details in other types of structures.



The Children's Library, Pasadena
Marston, Van Pelt & Maybury, Architects
Illustrated, with Floor Plans, in "Library Buildings"

The material is presented in two main divisions; the first third of the volume deals with "General Suggestions," and the remainder with "Plans." Only buildings costing less than $50,000 are considered, for the reason that "buildings costing less than this sum will greatly outnumber the more expensive ones, and they will be erected in smaller cities which usually lack architects with experience in planning library buildings." "General Suggestions" are concerned with principles of planning, construction and equipment, including location and type of building, architect, cost, capacity, windows and lighting, walls, heating and plumbing, shelving, furniture and general equipment. Of particular interest to those who are planning library buildings are the "observations and suggested floor plans" of the secretary of the Carnegie Corporation, who had unusual opportunity to study such problems. In presenting the matter of furniture the author has, with definiteness and correctness, made a selection for a library building costing about $25,000, and has indicated its reasonable arrangement on the floor plan. The plans selected are of library buildings in different sections of the country. Although the type varies somewhat, there is little difference in the fundamental principles involved for successful library work. The basis for selection has not been entirely architectural, although a few of the buildings shown have claims to this distinction. Most of them represent careful planning for economical and successful library work, while a few plans have been included which show features in arrangement that are unusual and which sometimes have been the basis for much discussion among library workers and trustees. The work represents careful study.

Many of the best, most recently erected, structures mentioned are branch buildings of city library systems. It is of importance to include these, for work in a branch library differs little from that done in a small city or village library, and the branch library buildings shown would serve excellently in smaller cities or with certain modifications even in larger towns.

Of the 25 buildings shown, 16 are branch libraries, six village libraries, one a college library, one a technical high school library, and one an architect's design for a rural library. Fourteen are of brick, two of brick and cement, four of wood, and one each of stucco, stone, terra cotta and tile. The illustrations include exterior and interior views reproduced from photographs, first floor plans, and numerous basement plans. Each plan is accompanied by a page or more of description covering the architecture, date of erection, size, material, cost, special features and comment on the strength or weakness of various features of the plan which could not fail to be helpful.

Librarians are beginning to understand that every library should be housed in a structure adapted to the kind of work it must do. There has been growing, during recent years, a feeling that whatever architectural style may be chosen for the building, an attempt should be made to relieve its interior from the monotonous and commonplace appearance prevalent in the conventional building. The classic Greek type, for example, is considered not well adapted to the small library. A less institutional and a more flexible, hospitable type of building is better suited to its needs. Accordingly, Mr. Hadley in making his selection has included examples among which the Colonial, English cottage, Spanish and Italian types seem to predominate.

Spanish Details

A Highly Practical Work on the Spanish Renaissance

By William Lawrence Bottomley

IN this volume there is presented a collection of illustrations and measured drawings of carefully selected details of Spanish Renaissance architecture. The work of a New York architect who has been notably successful in attractive use of Spanish motifs in his own practice, the volume presents not so much work of a striking and magnificent character as what is comparatively moderate in scale and therefore adaptable for present-day use in America.

The volume is replete with illustrations of well chosen, simple Spanish facades, doorways, windows, balconies, balustrades, exterior stairways and the grilles of wrought iron or carved and turned wood which are used at gates, windows and doorways. Interior details include the arcades of patios, ceilings, chimneypieces, floors, doors, shutters, wall fountains, etc., and since in most instances the illustrations are accompanied by measured drawings the reproduction of these details is not difficult.

Of all the recent works on the Spanish Renaissance this is perhaps the most practical for actual use.

Frontispiece in color; 104 plates and measured drawings, 11 x 13¾ ins. In portfolio form, $12.50; if bound, $15.

ROGERS & MANSON COMPANY
383 MADISON AVENUE NEW YORK

Library building committees in small towns may find a lack of plans small enough to meet their needs, and in fact this is a real need. How can one secure architectural beauty and practical efficiency in a building costing less than $10,000? It can be done and is done by skillful architects, although the problem may prove exacting. Such a book as this must send committees to architects to assist them with their problems, however small, rather than to trust to that highly unsatisfactory method of trying to save funds by having plans drawn by a local carpenter or contractor, and attempting to ease the conscience by the excuse that no architect would be interested in a problem so small.

The opinion has been expressed that because of the change of policy of the Carnegie Corporation in making grants for library buildings activity along this line would appreciably stop. Such is not the case. Everywhere, all over the country, if the advice from library commissions in the different states is correct, there is great building interest. The Carnegie Corporation has made invaluable contribution to library architecture, and not the least important part of the contribution has been the determination of certain principles. In this book is included the progressive series of 12 floor plans taken from the Carnegie Corporation's "Notes." These will prove constructive to beginners, and will serve as a helpful review for experts, being the result of years of experience.

This volume is the most compact, useable book on small library buildings available, and it should be in the hands of architects among whose clients may possibly be a library building committee. It should be useful not only for those who are going to build, but also for those who have built, because of its many practical suggestions for the planning, the management and operation of library buildings, all matters of the first importance.

LIBRARY BUILDINGS. By Chalmers Hadley, 154 pp., 7 x 10 inches. Price $3.50. American Library Association, Chicago.

FUNDAMENTALS OF HOUSE WIRING. By George A. Willoughby. 67 pp., 5 x 7¾ ins. Price $1. The Manual Arts Press, Peoria, Ill.

UNLIKE carpentry and even certain forms of actual building, the wiring of a structure for electric lighting is not work likely to be often attempted by an amateur. The demands of public safety have made necessary the surrounding of whatever has to do with electric lighting with guards in the form of municipal control or some form of licensing, and the technicalities of the subject must be well mastered and proficiency proved before it is possible to attempt actual practice in this field.

Mr. Willoughby is the Supervisor of Electrical Work in the Arthur Hill Trade School, Saginaw, Michigan, and the author of the work "Practical Electricity for Beginners." This new volume is not a work intended to show the versatile home owner how to wire a house but a text book for electrical construction classes in schools of various kinds; it covers exactly the field indicated by its title. The value of the ability to make house wiring installations, to understand what is back of a good electrical installation, to select good materials and to appreciate the duties of an electrical worker have been fully recognized by the author. The text covers fully the wiring of old buildings as well as new.

PAPERS AND MONOGRAPHS OF THE AMERICAN ACADEMY IN ROME. Works printed in Italy. To be had at the prices noted from the office of the American Academy in Rome, 101 Park Avenue, New York. Volume I.—The Cults of Campania. By Roy Merle Peterson. 403 pp., 6 x 9 ins. Price $2.50. Volume II.—Local Cults in Etruria. By Lily Ross Taylor. 258 pp., 6 x 9 ins. Price $2.50. Volume III.—Roman Buildings of the Republic. An Attempt to Date Them from Their Materials. By Tenney Frank. 149 pp. Price $4.

THE work of the American Academy in Rome includes activities other than that of affording to American students the means of profiting by the advantages of learning which Italy affords. Founded as the Academy was upon a foundation sufficiently broad to make possible work of considerable scope, it can easily be seen that circumstances occasionally make possible work of a nature somewhat different from that with which it is usually thought to be concerned, and thus there may be made ventures in research which aid in interpreting to the modern world the ruins of antiquity which still exist in Rome. In this way—among others—an effort is made to repay in some small part, or at least to acknowledge, the indebtedness of America to the Eternal City for all the facilities for learning which she holds forth to students of the entire world.

One volume of this series of monographs deals with the religion of a part of Italy not far from Rome, thus supplementing other works which for the most part deal with the religious cults of the city itself. Study of the religion of Rome has developed wide difference in ideas, each locality having in a sense a religion of its own, but all including a deification of attributes, seasons, days of the week, rivers, hills and glades; much deification also of emperors and ancient worthies when respect for them had turned into worship. Many divinities were taken over bodily from Greek, Semitic, or other sources, and the veneration of all this vast Pantheon of deities, careful propitiation of gods and observation of omens constituted a large part of the religion of ancient Rome.

Religion, even as it was held and observed in pagan Rome, involved the use of temples, and in the building of temples the aid of architecture was logically invoked, so the imagination may readily picture the effect on architecture of the beliefs and forms of worship which they entailed. Volume II of the series deals with much the same subject as applied to Etruria.

The ancient Romans, as the author of Volume III observes, were likely to express themselves in deeds and structures rather than in phrases, and they left for later generations the task of ferreting out their cultural history from whatever fragments of institutions or remains of buildings might be left of their mighty achievements. In actual construction and engineering the spirit of Rome revealed itself. Study of the buildings of ancient Rome from an examination of their materials and methods used in construction forms the subject matter of this volume.

All of the research entailed in the securing of the data presented in these volumes has involved infinite and patient effort on the part of scholars and students, and its presentation in permanent, easily accessible form constitutes an achievement well worthy of the Academy and its traditions. Publication of volumes on scholarly subjects may well form an important part of the work of an institution such as the American Academy in Rome.

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¶ Such a work has now appeared, prepared in the light of considerable successful experience and covering every phase of the organization and administration of a coöperative apartment house project; the forming of the owning corporation; the sale of tenant owners' stock; arrangement of owners' leases; erection of the building, and the conducting of the affairs of the association when once the building has been constructed and is in operation.

¶ To render the work of as practical a value as possible, inclusion is made of all the legal forms likely to be required, such as stock certificates, leases for stockholders and subleases, and the blanks used in the office of the association's secretary or bookkeeper. A number of pages are given up to describing various forms of publicity which have been found useful in attracting members to coöperative apartment house groups, and the volume contains the information which, regarded from every point of view, has been required. It should supply a powerful stimulus to the coöperative movement by promoting a correct understanding of its fundamental principles.

Price $20

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383 MADISON AVENUE NEW YORK

POLYCHROMY; ARCHITECTURAL AND STRUCTURAL THEORY AND PRACTICE. By Leon V. Solon, with Introduction by Ralph Adams Cram. 157 pp., 7 x 10 ins. Profusely illustrated, including nine plates in full color. Price $6. The *Architectural Record*, New York.

IN his foreword to this valuable and interesting work, Mr. Cram points out that loss of color in architecture was part of the price paid when the world rejected the principles and practice which directed the freedom and spiritual energy of building during the middle ages and embraced adherence to the definite law and intellectual determination which underlay the building of the Renaissance. In every age since the history of architecture began to be recorded and in every land under the sun color formed a vital part of architecture. If the ruins of ancient Greece appear cold and forbiddingly formal today, it is largely because centuries of neglect have dimmed their brilliance and reduced their walls to the monotones of white or gray of the original stone; but archæological research has corrected the fallacy which teaches that ancient Greek buildings depended for their splendor upon form alone, and a survey of the architecture of every country, Egypt, Assyria, Venice and Spain, to say nothing of China, India and Japan, today as in the past, proves that a close partnership between form and color must always exist where architecture is to be best served. This lesson is not entirely ignored by the modern world, and some years ago there began efforts, tentative but none the less significant, toward use of color with the exteriors of buildings, which now appear destined to bear fruit in excellent use of color.

In this volume, Leon V. Solon, who was Art Director of Liverpool University before taking over direction of the polychrome work of the American Encaustic Tiling Company, Ltd., of New York, presents in book form the matter which was originally published in the *Architectural Record*. Based, as it is, almost completely on a study of color in the architecture, and to some extent in the sculpture, of Greece, it forms a text book for architects, draftsmen, sculptors and students interested in the effort to revive use of color in building. The work is carefully written and extremely well illustrated and documented, and its teachings are as practical and as applicable to conditions today as the principles upon which the teachings are based were centuries ago.

SCHOOL BONDS. By John Guy Fowlkes. 176 pp.; 5 x 7¾ ins. Price $2.25. The Bruce Publishing Co., Milwaukee.

THE service which an architect renders to his client is often inclusive of far more than the drawing of designs and plans, preparing of specifications and superintending of construction. Many architects concern themselves with problems which might seem to be primarily economic, and in their solution much often depends upon the solving of financial problems.

There are possible instances where an architect might render valuable service to a school board by suggesting methods of raising funds for school building, and this volume supplies much valuable information regarding bonds, their issuing and sale. The work has been prepared by a professor in the University of Wisconsin, and is the result of considerable experience as well as research in this field. The book affords helpful suggestion.

COLONIAL INTERIORS

Photographs and Measured Drawings of the Colonial and Early Federal Periods

By LEIGH FRENCH, Jr., A. I. A.

INTERIOR woodwork during the Colonial and early Federal periods was exactly what is demanded for "Colonial" interiors today. The character of workmanship in the colonies insured craftsmanship of excellent quality, and this, together with design carefully studied from the simpler contemporary English work, resulted in woodwork which it would be difficult to improve upon. For this reason close study is being made of such old American interiors as still exist, and measured drawings make possible the reproduction today of much of the finest woodwork of the seventeenth or eighteenth century. These forms, while they involve not a little subtlety in the details of design, demand merely the use of simple mechanical processes which are not beyond the skill of any reasonably proficient woodworker, sometimes of an ordinary carpenter.

IN this valuable work on the early American periods there are given illustrations from new photographs of interiors of the time, many of which are little known. These illustrations are of rooms of different kinds and of widely different types,—the early, somewhat severe type as well as that which was later and more refined and luxurious. Valuable illustrations are supplemented in many instances by invaluable working drawings,—details of wall paneling, mantels, over-mantels and fireplace surrounds; door and window trim; china closets; newels, balusters and other details of stairways, and designs for the stenciling of floors, together with notes on the colors originally used. It is a volume which in its practical usefulness will be of great value to architects whose work involves much use of early American interior design.

125 plates, 10 x 15 inches. Price $15

ROGERS & MANSON COMPANY - - - 383 Madison Avenue, New York

BOOK DEPARTMENT

A Survey of English Industrial Housing

UPON the whole, the English have been admirably successful with their industrial housing. Possibly mistakes have been made in England as well as elsewhere, but the fact remains that in the various aspects of the subject, whether in the way of economics or of actual designing and construction, the work done in England is the best of its kind. Much has been accomplished by means of plans by which state or municipal government aid has been given to housing, and in many instances large operations have been carried out by great manufacturing concerns which have purchased land and constructed entire villages of houses for their employes. In the sphere of design the excellence of the English work is striking. It is scarcely to be supposed that a country which has inherited the richest and most varied traditions of beautiful cottage building in the world would be permanently contented with anything less than homes of a high order of beauty and practical convenience, and some 30 or more years ago a small group of people began to hark back, seeking first to pick up the lost threads of tradition and then to stem the tide of congested ugliness which threatened to overwhelm and obliterate whatever of ancient beauty and dignity still remained in English towns and villages and to substitute squalor for beauty and chaos for dignity. The battle is not yet won, but slowly and steadily the spirit of old England has reasserted itself, and the well ordered dignity of the traditional English village is being once more expressed,—in somewhat altered terms, it is true, but still beautiful and unmistakably English, and in a form in which practicality and economy in its true meaning are not called upon to make any sacrifice to æsthetic demands.

Part of a Group Facade
A. S. Soutar, Architect
Illustration from "Small Houses for the Community"

In this dawn of a new era there began a disappearance of the dark night of building represented by the old fashioned slum tenements and the shabby houses which resemble barracks rather than homes. Even during the World War architects were able to give some small attention to design and to experiment with construction, and the lessons of the war period, added to what was learned before and what has been acquired since, constitute a store of experience which enriches not only the architects of England but those of all the world as well.

In this volume there is given what is frankly a presentation of English housing at its best. In his foreword Mr. Raymond Unwin tells us that the work does not include the bad or even the average examples of post-war housing in England, but an adequate setting forth of the standard of attainment which has been reached. In the text pages the authors cover the various aspects of the subject quite thoroughly. Preceded by this discussion of the subject there are given 140 half-tone plates of buildings which are among the best of their kind that England has created, houses in groups or disposed in rows; houses which are possessed of true English charm and character, and which are proved by floor diagrams to be practical and convenient too. Much of the charm and interest of these villages are due to the arrangement of the groups of buildings facing open squares or circles or along the sides of winding roads or lanes —arranged in any way, in fact, except the hideous "gridiron" plan upon which there are built miles of ugly houses in the outskirts of Philadelphia and Baltimore, and elsewhere as well.

Materials used for industrial housing must everywhere be such as are of moderate initial cost and give excellent wear, and the fact that all the materials used are those popular in America is an added reason for the volume's being useful in the United States. Probably for purposes of comparison views are given of housing in Holland, Sweden and Denmark. It is to be regretted that some of the excellent work done in America could not have been included, particularly since in several instances American work compares favorably with that done in Europe and shows application of the lessons learned by housing experts and now predicing results everywhere.

SMALL HOUSES FOR THE COMMUNITY. By C. H. James and F. R. Yerbury, with Foreword by Raymond Unwin. Text, 140 Half-tone Plates, and Appendix, 10 x 12 ins. Price $10.50, Crosby Lockwood & Son, Stationers' Hall Court, London, E. C.

Any book reviewed may be obtained at published price from THE ARCHITECTURAL FORUM

French Farm Houses, Small Chateaux and Country Churches

By Antonio di Nardo

With Preface by Paul P. Cret

THE buildings of no country offer more in the way of inspiration for present-day architects than those of France. French towns and villages are filled with fine old houses and shop buildings, and the countryside abounds in farmhouses, farm structures singly or in groups, manor houses large or small, and the rural churches and wayside shrines which are among the most beautiful buildings of their kind in the world. All these structures by reason of their direct and practical designing supply the best possible precedent for modern work.

This volume contains more than 300 half-tone illustrations of buildings of this character, and in many instances illustrations of details are given, with drawings showing the bonding of brick or the arrangement of half-timber construction. *The work would be worth many times its cost to any architect interested in the design of domestic buildings and small churches.*

176 pages, 12 x 16 ins.

Price $18 net

ROGERS & MANSON COMPANY

383 MADISON AVENUE NEW YORK

THE HOUSE BEAUTIFUL BUILDING ANNUAL FOR 1925. Edited by Charles G. Loring. 150 pp., 9¾ x 12⅝ ins. Price $1.50. The Atlantic Monthly Press, 8 Arlington Street, Boston.

COMPLAINT has often been made by architects, and sometimes by builders, of the great amount of effort required of them which in many instances is merely what might be called "missionary work." Take, for example, the prospective home owner who comes to an architect to discuss the preliminaries of building. In nine instances out of ten he has little definite idea as to what he really wants, save perhaps an illustration clipped from some publication which deals with building, decoration and furnishing. As to the size of a house he has only the most general ideas, and a hazy—a very hazy—idea as to what he is prepared to spend, often indeed being cautious about naming any specific sum he might have in mind, hoping that the architect may be able to perform some feat of necromancy whereby a house may be built today for what he vaguely remembers was the cost of a house erected during what we now think of as "the good old days"; as to material his mind is likely to be a complete blank. All this means that the architect, if he hopes to develop a commission at all, must begin a series of conferences which take up long hours of valuable time and in only too many instances result in nothing at all,—and few architects feel justified in rendering a bill for the time consumed, which in most professions (and nearly all forms of business) would be charged for as a matter of course. Many architects have had such experiences.

Perhaps it was quite as much to aid architects as to assist home builders in general that this excellent volume has been compiled and published. It seems to have been to a large extent an outgrowth of the vast number of letters and enquiries which have been coming to the editorial offices of the *House Beautiful*, and the "Annual" is the work of many architects all over the country under the editorship of a Boston architect well known for his excellent work, particularly in the field of small or medium sized residential buildings. The volume covers every possible detail of building, financing, and the selection of a site, every phase of planning and construction, and the client is made familiar with the reading of blueprints and other drawings. The entire volume is replete with well chosen illustrations, and all in all the work would be quite as much of an aid to an architect as it could possibly be to his clients. The only mystifying thing about this publication is how it could possibly be products to sell for $1.50, even with advertisements.

THE NATURE, PRACTICE AND HISTORY OF ART. By H. Van Buren Magonigle. 314 pp., 5⅛ x 8 ins. Price $2.50. Charles Scribner's Sons, New York.

OF broad scope is this most recent work of Mr. Magonigle's, an extraordinary synthesis of the history and philosophy of art, a glorious pageant of events and personalities marshaled across a stage set with a rich background of ecclesiastical and secular history. Intended primarily for the student, its breadth renders it fascinating to the general reader in search of a review of the philosophy and history of the fine arts and some exposition of their technical processes.

The end papers at the front and back of the book carry maps upon which there may be traced the currents of influence in the Classic, Mediæval and Renaissance epochs, the maps themselves being valuable to students.

PORTRAITS OF TEN COUNTRY HOUSES DESIGNED BY DELANO & ALDRICH. A Work of 61 Reproductions of Sketches by Chester B. Price. Introduction by Royal Cortissoz. 11 x 14 ins. Price $15. Doubleday, Page & Co., Garden City, N. Y.

IT is not given to all architects or to every architectural firm to survey the achievements of years and to find them all good. The strain and effort which modern conditions impose upon the architect as well as the worker in other spheres prevent the bestowal of that thought and care which every architect desires should characterize the work of his office, and when many an architect after years of practice begins to cast up an account of his stewardship he surveys the past with chagrin if not dismay, finding not necessarily a roadside strewn with wrecks, but often much done in days when he lacked experience or under conditions which rendered the work wanting in much which might have been desired and which he wishes had been given to it.

One is sometimes inclined to marvel at the high excellence which has always marked the work of Delano & Aldrich, and in this beautiful volume there are presented, in a kind of review, ten of the many country houses which owe their origin to this well known office. Not that certain examples do not stand out from among the others, as star differeth from star in glory, for there are students of architecture not a few who regard the James A. Burden house at Syosset, Long Island, as the most beautiful dwelling built in America; but as the pages of this work are turned over, and examination is made of the notable sketches which Mr. Price has made of each of the estates included, it becomes more difficult to decide which of the many is of the highest excellence; it resembles a choosing between degrees of perfection. Architectural work of this character is rendered even more charming when presented in sketches as admirable as those of Mr. Price, and the work upon a whole constitutes a triumph for all those who had part in it.

OLD GLASS, EUROPEAN AND AMERICAN. By N. Hudson Moore, 394 pp., 6 x 9½ ins. Price $10 net. Frederick A. Stokes Company, New York.

ARCHITECTS and interior decorators are considerably indebted to the studies and researches of Mrs. Moore which have resulted in a number of excellent works, among which are the "Old Clock Book," the "Old China Book," the "Old Furniture Book," and "Old Pewter, Brass, Copper and Sheffield Plate." Added to this list of titles now comes the volume entitled "Old Glass, European and American," a carefully written treatise on glass from the earliest times.

The manufacture of glass probably originated somewhere in the Græco-Roman world and not far from the Mediterranean littoral about the second or first century before the Christian era, and since that far distant date its making has engaged the craftsmen of all countries, East and West. But the strangely beautiful vases, bowls and jars of what students know as "classical glass" possess a mystery and charm which has rarely been equaled and never surpassed by the productions of later ages. Mrs. Moore traces the development of glass-making in different countries, particular interest attaching to the chapters devoted to English glass, especially of the Stuart era, and to the early American glass makers, much of whose work still remains to this day.

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Price $20

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STICKS AND STONES. A Study of American Architecture and Civilization. By Lewis Mumford. 247 pp., 5½ x 8¼ ins. Price $2.50. Boni & Liveright, New York.

ONE of the indications that architecture is constantly being considered more intimately part and parcel of present-day life is found in the increasing interest in architecture which is being felt by the public. It is not always easy to convince the laity that architecture means rather more than the skillful designing of a building's facade or the economical planning of its floors, and that it includes in a broad sense the entire relationship between structure and life, including building's relations with all the other arts which minister to it, and also that architecture has reflected at every time during the world's history the state of civilization, of which it forms the most readily discerned expression. The popular ignorance upon these subjects is not difficult to understand. The rapid development of America has involved more effort given to actual building than to theorizing or writing about it; now, apparently, inquiry is being made into architectural history and philosophy, study is being made of architecture's evidences, and the result is an increasingly intelligent understanding of what architecture really is and what constitute its functions.

This volume is among the best of a number of works upon this prase of architecture which have lately appeared. Mr. Mumford has tried to formulate the inquiries which might be supposed to express the interest of popular opinion, and then to answer them. From the point of view of history he presents the achievements of America as expressed in its architecture, and with this easily visualized starting point as a beginning, he shows that architectural forms have always changed, just as they are changing today, as a result of the working of new forces, the influence of new ideas, altered interests and social usages, the increasing use of machinery, and also as a result of use of new materials. The breadth of these essays prevents their being closely identified with any one interest or small group of interests, and yet their appeal is chiefly to the architect or to those interested in architecture.

CHARTS AND GRAPHS. An Introduction to Graphic Methods in the Control and Analysis of Statistics. By Karl G. Karsten. 724 pp., 6 x 9 ins. Price $6. Prentice-Hall, Inc., New York.

THE great utility of charts or graphs procures their use in work of many widely different kinds. A "graph," as the etymology of the word itself suggests, might be described as a diagram which explains at a glance something which without use of the diagram or drawing might not be so easily grasped. It is therefore closely related to a map, or to the floor plans, working details and other such drawings familiar to architects. The use of charts and graphs obviously means a saving of time and mental effort.

For the first time, as far as we know, the drawing of graphs or charts is here taken up and carefully studied and analyzed in what is an exhaustive and encyclopædic treatise on an important topic, and the volume will be invaluable to statisticians, banks, executives, sales managers, to those engaged in certain forms of promotional or public work, and to writers on a variety of subjects.

OLD ENGLISH WALNUT AND LACQUER

By **R. W. SYMONDS**

QUITE as important in many types of architecture as interior design is the planning of furniture which goes with it. For each of the historic styles there were designed accessories which by being in agreement and harmony with their surroundings aided in creating the effect which the type made possible, easily marred by use of furniture unsuited to the surroundings.

With the architecture of no country or period was there used furniture more beautiful and distinguished than in England during the late Stuart and the early Georgian eras. Attracted by economic opportunities, the most skillful designers in Europe planned furniture which was built by the most finished of craftsmen. This was the "Walnut Age," during which were made masterpieces in walnut, and intercourse with the East brought the use of lacquer, also fashionable, and imitated presently by English workmen.

WRITTEN by one of the foremost students of English furniture, this work covers fully and completely the subject with which it deals. The design of furniture, its structure and its ornament, whether carved, inlaid or lacquered, its finish, and the care which furniture should receive are fully discussed, and there is given advice as to the identifying of old pieces and the detection of modern copies of old English furniture often sold as old to the unwary.

Intended for the furniture maker almost as much as for the designer, student or collector, the volume contains diagrams showing the details of joining, varieties of inlay, types of stretchers and spirals, and perhaps the most valuable feature of the work is the large number of excellent illustrations showing furniture of all the different kinds—bureaux, tables, chairs, stools, settees, cabinets and clocks developed in walnut or lacquer.

Fully Illustrated, 176 Pages, 9x11 Inches, Price $8.75

ROGERS & MANSON COMPANY, 383 Madison Avenue, New York

BOOK DEPARTMENT

Colonial Architecture in Connecticut

A Review by THOMAS P. ROBINSON

Of Derby & Robinson, Architects, Boston

THIS is a good book for the student of architecture, and for the student of Colonial architecture in particular. It is not a casual book, it was not put together casually, and it cannot be, with any profit, casually read. The student of architecture may be the critic, the cultivated layman, or the architect. It is as the architect that the present reviewer writes.

To the average person Colonial architecture has been pretty well investigated and recorded. He considers only the many books concerning it. To the architect investigation has not been and probably will not be for a long while completed, and the records which we have are, as a whole, inadequate and often unreliable. As a matter of fact our early work is still in what might be called the information stage. In a certain sense we know little or nothing about it, but are merely collecting data concerning it. We are acquainted with the outside of it, the superficial part or with parts of this part, but we have not arrived at the stage where we genuinely know it. All the books about it, all the articles, all the pictures, and all the drawings, constitute merely a collection of data which will ultimately go to the making of a complete and thoroughly well ordered record.

The Starr House (*circa* 1645), Guilford
From "Early Domestic Architecture of Connecticut"

The best known examples have, of course, been thoroughly photographed, measured and published, and the best known sections of the country have received critical and professional attention worthy of their fame; but there are many details lacking from any complete treatment of even the best known sections of the country, and there are whole areas which have been inadequately treated even in a general way. One of these has been until recently the Connecticut work. Mr. Kelly's book, therefore, presenting as it does a rather complete view of this more or less neglected work, fits appropriately into a large gap in the general history of the architecture of the colonies. That it should be considered merely as data collected toward a future complete history is due not to the book itself but to the stage of the history to which it is an excellent and necessary contribution. In Colonial architecture Connecticut is rich.

In calling his book "Early Domestic Architecture of Connecticut," Mr. Kelly must have had the general reader in mind, because, to the architect, early work is that built prior to 1700, and Mr. Kelly's book presents not only this, but also the work of the hundred years following. Indeed, he surveys rather fully the 1800 work, or at least the finish of the work of this period. The author has made, or has had made for him, a considerable number of investigations, and has made adequate drawings which become a record of these. In addition to this he has evidently covered the records already made by others, and has used these, legitimately of course, as an amplification of his own. As a result we have a book more comprehensive in its scope than any hitherto published on the Connecticut Colonial work.

The plan of the book is to indicate the line of development as it recorded itself in typical plans and in construction, and to follow this generalization with a discussion of significant details. This plan is carried out by means of illustrations from photographs, by drawings and text, all of them somewhat voluminous, especially the text. The plans might have been more ample, the purpose of a consistent development being in mind. We note, for instance, that the author has entirely omitted any examples of the end chimney type of plan which had the windows on both sides of each chimney. This might well have been included along with the other types of plan, because it constitutes a distinct motif typical of the 1800 work. Also there might have been plans showing the persistence of the center chimney throughout the entire course of development. The author covers this point in his text but neglects to illustrate it. A center chimney proved itself to be good for all periods, and was used in all periods; and it is equally good today.

The details discussed are for the most part under the usual headings such as Windows, Entrances, Mantels, Cupboards, and Stairs. It is perhaps natural, even desirable, that the interior woodwork should bear a disproportionate emphasis in the discussion of the later work because the later work had an interest in this rather than in construction, and it is equally as important now.

As architects of Colonial work, we would not be without Mr. Kelly's book, even if we did not expect to be inspired by it. It will amplify any architect's background and will add much to his working equipment.

EARLY DOMESTIC ARCHITECTURE OF CONNECTICUT. By J. Frederick Kelly, A. I. A. 206 pp., 8½ x 11 ins. Lavishly illustrated. Price $15. Yale University Press, New Haven.

French Farm Houses, Small Chateaux and Country Churches

By Antonio di Nardo

With Preface by Paul P. Cret

THE buildings of no country offer more in the way of inspiration for present-day architects than those of France. French towns and villages are filled with fine old houses and shop buildings, and the countryside abounds in farmhouses, farm structures singly or in groups, manor houses large or small, and the rural churches and wayside shrines which are among the most beautiful buildings of their kind in the world. All these structures by reason of their direct and practical designing supply the best possible precedent for modern work.

This volume contains more than 300 half-tone illustrations of buildings of this character, and in many instances illustrations of details are given, with drawings showing the bonding of brick or the arrangement of half-timber construction. *The work would be worth many times its cost to any architect interested in the design of domestic buildings and small churches.*

176 pages, 12 x 16 ins.

Price $18 net

ROGERS & MANSON COMPANY

383 MADISON AVENUE NEW YORK

AMERICAN LANDSCAPE ARCHITECTURE. Edited by P. H. Elwood, Jr., 194 pp., 10¼ x 13½ ins. Illustrated. Price, $20 net. The Architectural Book Publishing Co., New York.

REVIVAL of interest in the various branches of art which has been developing during the past 25 years has touched almost all its forms far more vitally than that of landscape architecture. Painting and sculpture are now receiving something which approximates their due share of attention; the drama is more widely appreciated, perhaps, than ever before; architecture might be said to be more fully understood (and certainly more highly regarded) than at any time during the past century, but landscape architecture for some reason seems to have lagged behind, though it too is now demanding and receiving more attention than might have been expected a decade ago. There are now a number of landscape architects who by their excellent work have built up flourishing practices, and a number of universities are now offering courses in landscape architecture and are already producing guaduates, men and women highly skilled in the art, all of which means a distinct gain.

Architecture of certain kinds exists without aid from the planner of landscapes, but other types depend upon it for much of their splendor. The great town palaces of Italy, for example, have but small opportunity—or none at all—for employing the accessories which the landscape architect provides, but the country villas upon the other hand, such as the Villa d'Este, could scarcely be imagined without the superb gardens which, already centuries old, grow more splendid with the coming of each succeeding spring. In certain instances, indeed, the gardens are more interesting than the palaces.

The great excellence of much of the work already done by certain landscape architects in America is well set forth in the beautifully printed pages of Mr. Elwood's book,—not only highly important work of a public nature, such as that done for Boston's park system by the great Olmsted, and now well matured, but work also of a much less extensive character on private estates, sometimes on a scale which is distinctly modest. It is one of the functions of landscape architecture to create an harmonious setting for a building, to soften austerity of line where it exists, to make the best use of area when it is to be had, or where little area exists to create the appearance of space by a skillful handling of accessories. Often, indeed, the landscape worker must overcome difficulties and thus turn liabilities into assets, which may be done when an objectionable building or view is screened by trellises or planting. The comfort of many a house, large or small, is invariably increased by the planning of terraces and of gardens, formal or intricate, with all the adjuncts which taste and ingenuity provide,—fountains, marbles, terra cotta, and often leadwork and statuary.

It is abundantly evident, however, that architecture, as it is usually regarded, and landscape architecture are dependent one upon the other, and that the happiest results are secured when both these professions are brought into full and enthusiastic coöperation. This is proved by the fact that all the best work has been the result of such a combination of effort. This volume is rich in helpful data of different kinds, and in addition to the fine illustrations of work large and not so large, and of many kinds, it contains plans and diagrams by means of which the illustrations may be more helpfully studied.

AMERICAN HOMES OF TODAY; Their Architectural Style, Their Environment and Their Characteristics. By Augusta Owen Patterson. 460 pp., 8 x 11 ins. Price $15. The Macmillan Company, New York.

THE words "American country house" mean different things to different people. With the architectural styles of all Europe to draw upon, to say nothing of what we are fond of calling the "Colonial" style, there exists a vast wealth in the way of precedent, and it is not always easy to maintain the integrity of a type, particularly when a client persists in incorporating into a house some interesting detail which he admires but which is hardly appropriate in the instance concerned. However, a review of a large part of what has been done in the way of country house architecture in America during the past decade or more shows that architects have learned to handle architectural styles consistently, and to design, plan and scale a building so that it shall be true to its type, and then to so decorate and furnish it that the architectural harmony is accentuated by the furnishings for which the interior provides an appropriate setting.

This beautifully produced volume, the work of the Art Editor of *Town & Country,* contains many illustrations which have appeared in that richly printed publication which are described in specially prepared text grouped under appropriate chapter headings, such as, for example: "The Historical Background," "The English Manner," "The French Style," and "The Italian Derivative," and under each of these heads are illustrations and text setting forth houses of the type being discussed. Special chapters are devoted to the garden, farm groups and incidental buildings, and while the work is chiefly concerned with country houses, there is a special chapter, well illustrated, on city homes.

While there are not many of the houses shown which are not more or less known to one who has followed such building during the last 10 or 15 years, it is a distinct advantage to have these illustrations and their descriptions in so convenient and beautiful a form.

SOUTHERN BAROQUE ART. A Study of Painting, Architecture and Music in Italy and Spain of the 17th and 18th Centuries. By Sacheverell Sitwell. 319 pp., 5½ x 8½ ins. Price $3. Alfred A. Knopf, New York.

THE absorbing study of the Renaissance presents no more interesting aspect than that which has to do with its constant change,—its progress or development from what it was at its beginning to what it became during the centuries of its history in the hands of different peoples. It is much the same with every artistic and literary movement and even with nations and races:—a foundation upon strong and vigorous principles expressed in symbols or terms which are themselves vigorous and strong; next, a gradual growth which involves a subtle change, the introduction of elements far different from those which had made up the original composition, the change leading to a climax of achievement, to be followed by a period of slow but certain decline, the brilliance of which merely serves to divert attention from the spectacle of its approaching disintegration. Entering as it did into almost every sphere of life, the Renaissance affected painting, sculpture, music and literature as well as architecture,—though perhaps architecture in particular, since its results in this field are more discernible.

This work is a study of the later stages of the Renaissance when development had brought about the Baroque, the final phase of the movement, particularly as concerns the work of the painters, musicians, *literati* and architects of Italy, Portugal and Spain. Architecturally, the Baroque afforded a medium of visible expression for the tendencies of the period, and just as the architecture of a given time constitutes its most enduring form of expression, the architecture and decoration of these countries during the seventeenth century and the eighteenth forms a record in actual construction of the tendencies of the period expressed by its monarchs and nobility. But not of the monarchs and nobles alone, for a highly important part of the development of the Baroque was in its application to the service of the Church. The counter-reformation had brought with it the rapid growth of the Society of Jesus, and the astute Jesuits recognized the importance of developing a type of church architecture which should address itself with powerful and irresistible appeal to the people,—not so much the spiritual and almost ethereal Gothic, with its soaring heavenward, as a more human and more readily grasped type, full of strong emotional feeling and sufficiently impressive and overpowering to compel reverence if not awe. So general indeed became the use of the Baroque by the Jesuits, particularly in Italy, Portugal, and Spain, that their churches almost everywhere, even today, are of this type. In Mexico as well, for the cross followed the flag into Spanish colonies, and with the wealth which Mexico produced there presently arose churches, monasteries and convents which in size and architectural and decorative splendor yielded but little to anything Europe had to offer. Literature too felt the influence of the Baroque movement, and music offered a rare medium of expression which perhaps was more sensuous than that supplied by architecture. Here again the Church afforded an opportunity for the full realization of Baroque expression, and the liturgy which during the twelfth century or the thirteenth had been chanted to severe Gothic plainsong by monastic choirs was now set to florid music which differed little if at all from that of the opera house and was often "performed" by much the same singers.

This volume hardly aspires to be a history of Baroque art or even a definite record of Baroque expression in any field, but rather affords a lightly sketched outline of tendencies active in many spheres of contemporary life. It aids largely in reconstructing in the imagination the aspect of the world during an age which while relatively not remote seems spiritually so strange to us today.

THE MANORS AND HISTORIC HOMES OF THE HUDSON VALLEY. By Harold Donaldson Eberlein. 328 pp., 6 x 9½ ins. Price $10. J. B. Lippincott Company, Philadelphia.

ALTHOUGH centuries have now elapsed since the region around New York ceased to be "colonial," there still exist countless old homes which express well the architectural ideas of their Dutch or English builders, and about such old homes there hang romance and tradition which add to their interest.

This book, like most of Mr. Eberlein's works, makes much of the social and literary qualities of these old homes while not neglecting the architectural aspect, which to many would be of even greater importance.

OUR DEBT TO GREECE AND ROME; A Series of Studies under the Editorship of George Depue Hadzsits, University of Pennsylvania, and David Moore Robinson, of Johns Hopkins University. "Architecture," by Alfred Mansfield Brooks, Professor of Fine Arts, Swathmore College, with Introduction by Sir Reginald Blomfield, 190 pp., 4¾ x 7⅛ ins. Price $1.50. Marshall Jones Company, Boston.

MANY scholars, European as well as American, are coöperating in the preparation of this series of historical studies which in some 50 volumes outlines the influence upon our present civilization of the antique culture of Greece and Rome. Art in every form, philosophy, literature in its different branches of history, poetry and drama, and the other departments of effort which contributed to the brilliant civilization of the ancient world are studied and analyzed, and in the hands of many different scholars, each of whom has made a special study of the subject, the development or adaptation of these forms of culture is traced and their effect upon present-day life explained or interpreted.

Architecture has suffered more than most of the arts from misunderstanding and misinterpretation, possibly largely because it has not always been fully recognized as a form of art. With the Greeks a fine and almost unerring instinct for beauty led to their expressing in their buildings the same ideals of harmony, grace and symmetry which formed the basis of their activities in literature, philosophy and language; so too in the Gothic age, when master builders reared their matchless cathedrals without the self-consciousness of practicing any special form of art,—they simply built in the best way they knew, expressing themselves, and developing their plans as they went along, and the result was art in its most delightful and inestimably precious form. At the time of the Renaissance architecture became largely a matter of scholarship and technique. The Renaissance architects studied, measured and adapted; some even laid down hard and fast laws and rules, and considered variation therefrom an especially invidious form of heresy;—in a word architecture was no longer free and untrammeled, and therefore it lost much of the spontaneity and naivete which made so notable and so beautiful the buildings of earlier periods. And so on down to the present, when architecture, having passed through various stages of degradation, is once more demanding as its birthright a place among the arts, and claiming as its rightful heritage now what it contributed to the splendor of the past.

Today it is often difficult to lead people to a correct understanding of just what architecture really is; to some it is almost wholly a matter of design, while to others architecture is little more than actual construction. Few realize that it is an art having so many phases or points of contact with life that of all the arts it is what might be called the most "human," and that therefore the architecture of a period is the most reliable gauge or measure of its culture. This extremely well written work will aid in the wider understanding of what architecture really is, and by spreading knowledge of its past will broaden sympathy with its development in the present and the future. The book's being written in what might be called a "popular" style should considerably widen the scope of its appeal to the world at large.

OLD ENGLISH WALNUT AND LACQUER

By **R. W. SYMONDS**

QUITE as important in many types of architecture as interior design is the planning of furniture which goes with it. For each of the historic styles there were designed accessories which by being in agreement and harmony with their surroundings aided in creating the effect which the type made possible, easily marred by use of furniture unsuited to the surroundings.

With the architecture of no country or period was there used furniture more beautiful and distinguished than in England during the late Stuart and the early Georgian eras. Attracted by economic opportunities, the most skillful designers in Europe planned furniture which was built by the most finished of craftsmen. This was the "Walnut Age," during which were made masterpieces in walnut, and intercourse with the East brought the use of lacquer, also fashionable, and imitated presently by English workmen.

WRITTEN by one of the foremost students of English furniture, this work covers fully and completely the subject with which it deals. The design of furniture, its structure and its ornament, whether carved, inlaid or lacquered, its finish, and the care which furniture should receive are fully discussed, and there is given advice as to the identifying of old pieces and the detection of modern copies of old English furniture often sold as old to the unwary.

Intended for the furniture maker almost as much as for the designer, student or collector, the volume contains diagrams showing the details of joining, varieties of inlay, types of stretchers and spirals, and perhaps the most valuable feature of the work is the large number of excellent illustrations showing furniture of all the different kinds—bureaux, tables, chairs, stools, settees, cabinets and clocks developed in walnut or lacquer.

Fully Illustrated, 176 Pages, 9x11 Inches, Price $8.75

ROGERS & MANSON COMPANY, 383 Madison Avenue, New York

BOOK DEPARTMENT

Westminster Abbey; Its Architecture and History

PROBABLY in no country of Europe does there exist a spot so intimately and vitally connected with a nation's history as Westminster is with that of England. Here she possesses a fane to her greatest and best; at every turn there is recalled some historical event or some famous personage; here have been crowned the long line of English monarchs, and here many of them lie entombed beneath their marble effigies. Within the walls of one small shrine, under the tattered battle flags and the matchless fan vaulting of the chapel of Henry VII, are the tombs of Mary Tudor, Elizabeth, and the Queen of Scots, rivals and enemies in life, but near neighbors now and at peace in the tranquillity and the cold majesty of death.

Westminster, moreover, presents in itself a review of the architectural history of England. Its being practically a French church on English soil is due to the fact that at the period when it was begun by Edward the Confessor, and at that later period when it was rebuilt by Henry III, French architectural influence was paramount in England, and the visitor still finds in its western front with its two square towers, and its lofty nave and choir terminating in a chevet with radiating chapels, far more that is reminiscent of Amiens, Chartres or Jumieges than of Canterbury, York, Durham, or any of the other cathedrals from which from time immemorial English bishops have governed their sees, and mostly essentially and characteristically English.

Particularly since the World War, the English people have come to regard with a deeper veneration the great monuments, historical and architectural, which mark epochs in English life. Perhaps the sight of the gaunt and mutilated remains of glorious Rheims, the coronation place of the Kings of France, has stirred the English to a deeper appreciation of their own heritage; perhaps, too, the reports of the condition of certain English cathedrals which are tottering, if not actually at the point of collapse, menaced not by an enemy's shells, but by atmospheric conditions or the damage done by excavations for subways, have been the cause of a general increase in the pride with which the English regard whatever concerns their national history. Whatever the cause, there has been established within the past 16 years the Royal Commission on Historical Monuments, part of its activities consisting of the publication of surveys or inventories of the chief historical monuments of England, one of its three large volumes on London dealing with Westminster Abbey. The work is in part historical and in part it deals with the Abbey's architecture, and in the inventory there are listed the monuments, effigies, brasses and other treasures which contribute so largely to its interest and render it so architecturally important.

The volume goes with admirable thoroughness into its subject matter. In addition to giving sufficient of the Abbey's history to make its architecture readily understood, it contains countless half-tone illustrations (and in many instances drawings as well) of details of its architecture; contours or profiles of mouldings; carvings of wood such as shrines and canopies over choir stalls; decorative soffits and screens, sculpture in stone or marble, such as tombs, effigies, cenotaphs, tablets and altars, or of sculpture that is part of the building itself, such as bosses, niches, statues singly or in groups, bases and capitals of piers or columns; brasses which are parts of floors or which are set into walls; treasures of glass, much of it belonging to the best periods of glass staining and painting, and all this, not only of the Abbey proper, for as part of its precincts there are all the accessory buildings, such as chapter house, deanery, cloisters, frater, choir school and other structures which, grouped together in the heart of London, represent what was a monastic establishment from its foundation until in the sixteenth century the religious orders were suppressed.

Aside from its historical importance, the work possesses a high value for the architect. The volume is therefore important to the architect as well as to the historian and antiquarian, for it is probably the most complete work yet published on Westminster Abbey and its art.

HISTORICAL MONUMENTS IN LONDON. Volume 1, Westminster Abbey, Text and 220 Plates. Price 21s. Issued by the Royal Commission on Historical Monuments. Published and Sold by His Majesty's Stationery Office, London.

Books Reviewed

London Alleys, Byways and Courts. *By Alan Stapleton. $5. Dodd, Mead & Co.*

Greek Life and Thought. *By La Rue Van Hook. $2.50. Columbia University Press.*

Italic Hut Urns and Hut Urn Cemeteries. *By W. R. Bryan. $2.50. American Academy in Rome.*

Terra Cotta of the Italian Renaissance. *$3. National Terra Cotta Society.*

Architecture of John Russell Pope. *Parts I and II. $7.50 each part. William Helburn, Inc.*

Manual of Office Practice. *By Frederick J. Adams.*

Architectural and Decorative Drawings. *By Bertram Grosvenor Goodhue.*

Masters in Architecture. *By H. V. Lanchester and C. H. Reilly.*

The Pleasures of Architecture. *By C. and A. Williams-Ellis.*

Bookplate Annual for 1925. *By Alfred Fowler.*

Garden City Houses and Interior Details.

Spanish Gardens and Patios. *By Mildred Stapley Byne and Arthur Byne.*

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THE buildings of no country offer more in the way of inspiration for present-day architects than those of France. French towns and villages are filled with fine old houses and shop buildings, and the countryside abounds in farmhouses, farm structures singly or in groups, manor houses large or small, and the rural churches and wayside shrines which are among the most beautiful buildings of their kind in the world. All these structures by reason of their direct and practical designing supply the best possible precedent for modern work.

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Price $18 net

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383 MADISON AVENUE NEW YORK

A MANUAL OF OFFICE PRACTICE FOR THE ARCHITECTURAL WORKER. By Frederick J. Adams, A. I. A., 96 pp., 5 x 7½ ins. Price $1.25. Charles Scribner's Sons, New York.

ARCHITECTURAL practice, individually or as a firm, as at present constituted might be regarded as a business as well as a profession. Still regarded, it is true, by the public at large as a professional man, the architect by the very nature of his activities in the modern world must maintain a business organization which may develop, and often does, into a staff of considerable size. For example, there are the individuals, partners in the firm, perhaps, or important members of the staff, who are responsible for the securing of commissions, often pioneering into new fields and likely to maintain considerable contact with sources of financial aid, of which the firm's clients frequently have need. Next there are those responsible for designing and planning,—for maintaining, perhaps, the firm's prestige as designers while creating plans which shall give the absolute utmost in service or revenue. Highly important are the members of the staff, often trained engineers, who are concerned with actual construction; those equally important individuals who are concerned with receiving bids and letting contracts and supervision of construction, and finally there are the draftsmen, business managers, clerks, correspondents and the host of others whose salaries sometimes swell the office payroll to unheard-of figures. Moreover, this organization cannot always, without grave injury, be reduced in size when there is but little work in the office; with each individual a specialist in his field and perhaps difficult to replace, such an organization must be maintained almost intact unless its value is to be lost.

To preside over this highly complex organization is the function of the architect himself, who must coördinate the work of all these departments, his skill and resource as a designer perhaps being no more necessary than possession of ability as a business getter or a business executive. Often his ability lies in one direction rather than in another, and perhaps for this reason there have been many successful firms composed of two or perhaps several architects, each of whom has confined his efforts to the field in which he felt himself best equipped to work.

In this volume Mr. Adams, long and widely known for his successful administration of an important department in the offices of McKim, Mead & White, gives "a concise tabulation of instructions covering the routine of an architectural office for the information of the workers therein and all others having to do with building construction." The work has been revised and enlarged from the version by the same author for use in his firm's offices. It would be difficult indeed to imagine a treatise which covers its subject more completely, and were it studied by most architects and all architects' assistants there would be far less friction in the work of architects' offices;—and it might be studied with profit by building contractors as well.

In addition to general chapters on the functioning of an architectural office as a whole, Mr. Adams devotes special sections to the study of the drafting sections, construction and field sections, and other chapters to the work of an architects' organization as applied to buildings of specific types, such as hotels, while to add to the helpfulness of the book complete checking lists are included, and forms used for various purposes are given.

A BOOK OF ARCHITECTURAL AND DECORATIVE DRAWINGS. By Bertram Grosvenor Goodhue. Second Printing, 1924. Price $15. Architectural Book Publishing Co., New York.

PRACTICE of architecture often involves great skill in the various arts which enter into it. Many architects in the past have been perhaps quite as notable as painters or sculptors as architects, while owing to the highly important part it plays in architecture, drawing or sketching is necessary to its practice, and often it develops a character which ceases to be primarily architectural. Few modern architects have been gifted with quite the degree of skill which rendered so notable the work of the late Mr. Goodhue. His unerring taste in composition was either the result or cause of his great skill in sketching. Whether he were designing a group of buildings to be developed in stone or brick, or sketching some walled hill town in a forgotten part of France, Spain or Germany, his taste and judgment disposed the parts of the picture in a way which created airy grace and fantastic loveliness combined with solidity of structure which rendered the composition both logical and convincing. This is especially true of his churches.

This volume is a reprint of that issued some years ago, and its reappearance is no doubt due to the interest in his work which has followed Mr. Goodhue's death last spring. The work, carefully edited and beautifully produced, should be well studied by architects and draftsmen and indeed by anyone to whom composition and technique are of value in designing or illustrating.

MASTERS IN ARCHITECTURE. Fischer Von Erlach, by H. V. Lanchester; McKim, Mead and White, by C. H. Reilly. Each volume consisting of text and about 36 plates, 7 x 10 inches. Price $2.50. Charles Scribner's Sons, New York.

THE series of monographs dealing with the work of great architects or architectural firms which is being published under the general editorship of Stanley C. Ramsey is enlarged by the addition of these two volumes. The fact that Von Erlach was contemporary with Sir Christopher Wren will suggest a comparison between the work of the two men, each a master architect, the one being the creator of work of outstanding significance in Vienna, while the other during his day dominated architecture in England and became the founder of a school or a tradition which is still powerful and vital after more than two centuries. Great architects both, each was master of his chosen province of architecture, and each interpreted the spirit of his environment. The qualities of the gay and vivacious Baroque architecture, in which Von Erlach excelled, express the temperament of brilliant, fun-loving Vienna, just as in St. Paul's or any other of his works, Wren expressed the acceptance of the Renaissance which prevailed in England, which resulted in a type rich and splendidly beautiful, while not for an instant ceasing to be essentially British.

As with several volumes of this series of monographs already reviewed in these pages, each of these works adds to the general understanding of architecture. The subject of one of the volumes lived in a period centuries remote from the present, while the firm which is the subject of the other monograph is now, as for many decades, in the foremost rank of American architects. Each volume presents in the illustrations and sums up in its text the work by which these names will be remembered, and each forms a valuable addition to history.

THE PLEASURES OF ARCHITECTURE. By C. and A. Williams-Ellis. 275 pp., 5½ x 8 ins. Price $3.50. The Houghton Mifflin Co., Boston and New York.

PERHAPS the low estate to which architecture fell during the nineteenth century was but one of the results which followed the decree of absolute divorce between good taste and almost everything with which good taste had to do. It was an age during which machinery came rapidly into use to take the place of the handicraft which had been developed during centuries; and with the coming of machinery there came also use of forms which lent themselves to machine production; worse still, for with the advent of machinery and the abandonment of the handicrafts there went the relinquishing of the point of view of which the handicrafts were an expression, and the rise of an entirely new philosophy and attitude toward all the arts. The devastating effects of this machine age and everything which went with it are still abundantly apparent everywhere, but the tide has turned, and good taste, together with all it involves, while by no means at yet triumphant, may at least be said to have reached a point where its star is in the ascendant.

One indication of the growing interest in good taste is found in the increased interest being shown in architecture. How often an architect or perhaps a writer on architectural subjects is asked some question which proves an interest,—sometimes an intelligent interest,—in architecture, or else is asked to suggest some work, readily accessible and written in language not too technical, which would outline a foundation or basis upon which an appreciation of architecture could be built up! Possibly the existence of such interest suggested the preparation of this work, which concerns itself with an explanation of the relations between architecture and life in general, the other arts which are more or less closely allied with architecture, and the changes that alter or modify these relations as the conditions which govern or direct them are themselves changed.

The volume does considerably more than discuss architectural theory in an academic way; it renders its excellent teaching readily grasped by citing examples both bad and good of what is being discussed. The work is so valuable that it should be commended not only to seekers after truth, but to architects themselves; it would aid in making many things more intelligently believed because more clearly and definitely understood.

THE BOOKPLATE ANNUAL FOR 1925, Edited and Sold in Limited Edition by Alfred Fowler, 816 Board of Trade Building, Kansas City. Price $5.

THE fact that architects have always been numbered among those careful and discriminating people whose books are marked by bookplates renders the study of their origin and development of particular interest. Their use is by no means recent, and many large collections, of which there are a number, contain the actual little *ex libris* labels really used by the great of past centuries to identify their volumes.

Much data regarding bookplates old and new is given in the 1925 "Annual." The work of several well known designers is studied, and Charles Over Cornelius, of the Metropolitan Museum, contributes an especially interesting essay on "The George Washington Bookplate Myth."

GARDEN CITY HOUSES AND DOMESTIC INTERIOR DETAILS. Fourth Edition, Revised and Enlarged. 112 pp., 9 x 12 ins. Price $2. The Architectural Press, 9 Queen Anne's Gate, Westminister, S. W.

THE interest which during the last few years has been developed in small houses has brought about a study of the small house architecture of every country. Among countless types of domestic building there exists none more beautiful and interesting than that of England, and to English small houses there belongs a quality which is rarely found in larger and more pretentious work. This is particularly true of some recent buildings, and the lessons they teach are needed in America.

This volume, published by a firm noted for its good taste in selection and for its excellent editorial judgment, is a study of the modern English small houses of what might be called the "Garden City" order, houses or cottages all small or of medium size and of corresponding costs, but many sufficiently beautiful and distinguished to hold their own among buildings larger and far more costly. The houses shown are built of many kinds of material, and floor plans and in many instances drawings of details increase the helpfulness of the book.

SPANISH GARDENS AND PATIOS. By Mildred Stapley Byne and Arthur Byne, 305 pp., 7½ x 11 ins. Lavishly illustrated in black and white, with several illustrations in color. Price $15 net. J. B. Lippincott Co., Philadelphia.

TO the goodly list of recent books dealing with Spanish architecture, ironwork, decoration, furniture and other departments of art in Spain, there comes a notable addition in this excellent work on Spanish gardening, a publication in book form which includes the interesting chapters which appeared during several recent months in the *Architectural Record*, containing matter valuable indeed to architects and to home owners alike.

A garden in Spain may mean much or little; the estates of Spanish royalty or Spanish grandees of course include gardens which in many cases rival those of Italy or France and very likely were based upon Italian or French precedent; but more frequently to be met, and to many vastly more charming, are the smaller gardens,—walled perhaps, or the gardens within patios or courtyards of houses which might be in either city or country. These patio gardens, indeed, owe much of their interest and charm to the close and intimate connection between architecture and gardening which is involved; the art of the gardener is strengthened by its relation with building, while to beautify a structure adorned perhaps, as houses in Spain usually are, with much in the way of ironwork, tiling and ornament in divers other forms, there is added charm given by growing things, trees and plants, and water in many forms increases the interest and beauty of the setting.

It is always a pleasure when reviewing a book dealing with domestic architecture and decoration to be able to say that it abounds in suggestions which architects in America might easily adapt, and this work is full of illustrations of gardens and patios where delightful use has been made of the simplest forms of ironwork, tiling, brick paving and wood shutters or grilles at windows and doors. The well deserved present popularity of Spanish architectural types where climate renders them appropriate should be increased and extended by the teachings and suggestions had from this excellent work.

"CHURCH BUILDING"—*By Ralph Adams Cram*

(A NEW AND REVISED EDITION)

THE improvement which has accompanied the progress of American architecture during recent years has been no more marked in any department than in that of an ecclesiastical nature. This has been due primarily to the rise of a few architects who by travel and study have acquired much of the point of view from which worked the builders of the beautiful structures which during the fourteenth century and the fifteenth were being built over all of Europe.

These architects have closely studied the churches, chapels, convents and other similar buildings in England, France, Spain and elsewhere, and the result has been a number of American churches of an excellence so marked that they have influenced ecclesiastical architecture in general and have led a distinct advance toward a vastly better standard. This improvement has not been exclusively in the matter of design, for plans of older buildings have been adapted to present-day needs, and old forms have been applied to purposes which are wholly new.

THE appearance of a new and revised edition of a work which is by far the best in its field records this progress. Mr. Cram, being perhaps the leader among the architects who have led this advance, is himself the one individual best qualified to write regarding the betterment of ecclesiastical architecture. The editions of this work of 1900 and 1914, which have for some time been out of print, have now been considerably revised and much entirely new matter has been added, which in view of the change which has come over ecclesiastical building of every nature is both significant and helpful.

Illustrations used in this new edition of "Church Building" show the best of recent work—views of churches and chapels large and small, in town and country, buildings rich in material and design and others plain to the point of severity, with the sole ornament in the use of fine proportions and correct lines. Part of the work deals with the churches and their worship.

345 pages, 6 x 9 inches, Price $7.50

ROGERS & MANSON COMPANY, 383 Madison Avenue, New York

BOOK DEPARTMENT

Domestic Architecture in Rural Spain

ITS COMPOSITION, DESIGN AND PLAN

SPAIN is a country in which there are to be found many varieties of climate and various types of architecture which are developed in different materials. From the heavily wooded hillsides of the northern or Basque provinces, not far from where the Pyrenees divide Spain from France, there is cut the wood which goes into the half-timbered houses of the comparatively cold and bleak north, in which the fireplace is likely to be the center of interest; elsewhere use is made of granite or stone or of the materials made of clay for building houses of appropriate types, while in Andalusia, the southern province of Spain, the houses are likely to be of rubble or adobe and coated with stucco, the buildings being probably grouped or disposed about a courtyard or patio, the function of which is to bring the freshness and greenery of the garden into the very heart and center of the house itself.

What is popularly known in America as "Spanish domestic architecture" is therefore the type which is found chiefly in Andalusia, high in favor just now in Florida and in southern California, where a more or less languorous climate renders it appropriate, this architectural type having been brought to America originally by the early missionaries, who realized the suitability for use in the New World of what they had left behind them in the Old, an architecture characterized by extreme simplicity, readily developed in materials which are the reverse of costly, and making no very heavy demands on craftsmanship or skilled labor, advantages as important today as ever.

Mr. and Mrs. Byne, during the many years they have lived in Spain, have done much by their published writings to extend in America the popularity of Spanish types of architecture, gardening, decoration and furnishing. In this present volume, which is a valuable addition to the number of their books, there is given a study of the Spanish house as it exists in different parts of the peninsula, giving views of its exterior and interior and in some instances plans and drawings of details. The charm of Spanish residence architecture, particularly in the provincial cities and the small towns and rural districts, lies largely in its skillful composition. Spanish builders seem to possess an almost unerring instinct for the successful disposition of masses of structure, arrangement of fenestration, and for the excellent designing of roofs, especially important since Spanish buildings are likely to be low and spreading and therefore involving large expanses of roof. The same skill which they bring to the designing of their roofs the Spanish builders lavish upon their fenestration. They well know the value of plain wall surfaces; the proportion in a building of openings to solid wall areas is but small, and the openings themselves are likely to be placed just where they are certain to be most effective from an architectural point of view, and probably adorned with wrought iron grilles, suitably ornate or severely simple as occasion demands.

To the charm given by the use of architecture which is simple, graceful and full of character, there is added that given by decorations and furnishings which are powerful aids in interpreting the architecture, and in this volume as in all the works of these authors there are included many illustrations.

An examination of a number of buildings in America designed in the Spanish style leads one to believe that their failure to attain complete success is due chiefly to the use by architects of too much ornament and in too great a variety; or else when the architecture itself is not at fault there is the grave injury which may be done by interior decorators anxious to make the cost as great as possible by the use of everything which could aid in creating a sumptuous and gorgeous effect, well enough in some instances, perhaps, but the very thing which should be carefully avoided unless the reticence, dignity and reserve which constitute so much of the charm of early Spanish buildings are to be completely lost.

This work, like the other volumes from the pens of these writers, will undoubtedly aid considerably in developing appreciation of Spanish domestic architecture.

PROVINCIAL HOUSES IN SPAIN. By Arthur Byne and Mildred Stapley. Text and 190 plates, 12½ x 16 ins. Price $25. William Helburn, Inc., 418 Madison Avenue, New York.

HOUSE & GARDEN'S

"Second Book of Houses"

THE 1925 work—190 pages—on the moderate cost house without and within: site; setting; style; design; material; garage; plan; interior decoration; furnishing; equipment; the entire place, in fact, covered in well selected material, arranged, edited and lavishly illustrated with *House & Garden's* well known taste. Drawings of details of structures and accessories. The work is invaluable to the discriminating home owner or home furnisher. It covers the entire subject. Price $4.

A Country House designed by Frank J. Forster
Illustration from "The Second Book of Houses"

"The First Book of Houses"

CONTAINS 110 pages of illustrations and plans of some of the best moderate-cost homes in the country, of different styles and materials and of great variety of plan. Successful alterations are shown, and there are numerous illustrations of details such as porches, fireplaces and mantels, doorways, windows, stairways and chimneys. An excellent work on the subject. Price $3.

ROGERS & MANSON COMPANY
383 MADISON AVENUE NEW YORK

COLOR IN ARCHITECTURE. By F. S. Laurence, Executive Secretary, National Terra Cotta Society, Issued by the National Terra Cotta Society, New York.

MANUFACTURERS of certain building materials in their desire to render their advertising of value sometimes produce works which would be regarded as notable from more than one point of view. The workers of terra cotta, for example, frequently place architects and students under obligations for the publications which they issue, publications in which are recorded the results of travel, study and research. Terra cotta is a material which possesses honorable and worthy traditions and can point to a distinguished past, made famous by men whose names will live forever.

A most dignified and worthy book is this just issued by the National Terra Cotta Society for distribution among architects. There has evidently been made a search for illustrations of old terra cotta in color which are not too well known to render their use in this way advisable, while illustrations of modern use of colored terra cotta show numerous instances where there are displayed ingenuity and resource in the way of design which would have done credit to craftsmen of the period accounted the palmiest days of the terra cotta industry. In THE ARCHITECTURAL FORUM during many years there have been countless references to terra cotta and other materials which might be said to belong to the same family, and the high degree of excellence to which the makers of terra cotta have now brought their product should be proof positive that work of the present and future has nothing to fear from comparison with the old.

SAILING SHIP MODELS. A Selection from European and American Collections, with Introductory Text by R. Morton Nance. 80 pp. text; 124 plates 10 x 12½ ins. Price $22.50 Halton and Truscott Smith, Ltd., London.

MODERN building of ships might be said to sustain exactly the same relation to the ship building of a century or more ago that the modern structure of brick or terra cotta held up by a steel frame bears to the building of say the period of Sir Christopher Wren. In either case, building in the old fashioned, traditional meaning of the term has ceased. What is now being done is not building but engineering, and in the change the world has suffered considerable loss. When comparing the old sea travel with the new, as when contrasting the building of the time of George III with that of George V, we must realize that there has been much loss of satisfaction to the eye and that we have been made to pay heavily for it. Gone from all the harbors of the world are the endless rows of ships of all sizes under sail, each of them showing fresh beauties with every change of position as they tacked hither and thither, trimming their gorgeously painted sails to the mood of the wind. In their stead have come other vessels that tack no more, but go panting, plodding or racing straight in their courses, with, it would seem, but one idea possessing them, that of removing their factory-like mechanical masses, braving the elements on which they are desecrations, and as hurriedly as possible returning to the steel and concrete docks alongside which they appear to be most at home.

Now for centuries there have been made models of vessels of various kinds which possess much of the interest of the actual vessels themselves. Such models

are often made for Navy or Admiralty departments of national governments, for the merchant marine, or for yacht clubs. Sometimes models of ships are placed in town halls or other civic buildings, or in churches as votive offerings, as may be seen in old churches in any European seaport or in certain venerable churches near the docks in Quebec and Montreal. This particular use of ship models indeed is of wide application, for votive junks still hang in Chinese temples, just as church ships hang in the churches of Europe.

This beautifully produced volume covers completely the subject of models of sailing vessels from carrack to clipper. It has a high degree of architectural interest, since the architecture of the great vessels which for centuries represented England, for example, upon the seas was like in many respects to that of the grand homes of the English on land; often the ships rivaled such buildings in splendor. The work is a study in architectural as well as in naval history.

THE DICTIONARY OF ENGLISH FURNITURE; From the Middle Ages to the Late Georgian Period. Vol. 1 (A.—Ch.) By Percy Macquoid and Ralph Edwards, with a General Introduction by H. Avray Tipping, 262 pp., 19 plates in color; lavishly illustrated in black and white. Price $35. Charles Scribner's Sons, New York.

STUDENTS of architecture, decoration, and all the arts which involve use of design owe much to the zeal and diligence of compilers of works of reference in which there are recorded dates, details of origin, definitions and data of various kinds which must sometimes be had, and often at times when to obtain reliable data at first hand or to settle some disputed point would be difficult, if not impossible.

A work which seems likely to be of great value to students and craftsmen is this on English furniture. Prepared by two well known students of the subject, the work represents years of study, skill, patience and accuracy as well as of careful judgment and discriminating taste, and the thought which has undoubtedly been given to preparation of its text is equaled by that given to the selection of its numerous illustrations.

ELEMENTS OF GRAPHICS; Descriptive Geometry, Shades and Shadows and Perspective. By Nathaniel Cortlandt Curtis, Author of "Architectural Composition." 100 pp., 6¾ x 9¾ ins. Price $2.50. J. H. Jansen, Cleveland.

SUCCESSFUL practice of architecture depends in no small measure upon proficiency in drawing, important parts of which are descriptive geometry, perspective, and light and shadow. And yet experience has proved that the theory of each of these subjects is difficult to grasp, one reason being that it is generally difficult to illustrate, and many draftsmen fail to develop their skill as otherwise they might had they had a better grounding and a more secure foundation for some of the very fundamentals of drawing.

Mr. Curtis, a widely experienced teacher of architecture, has prepared this volume in the light of considerable understanding of the difficulties encountered by students in a number of institutions. The work may be recommended with entire confidence to draftsmen and younger architects, while a review of its contents might well be helpful even to architects of considerable experience. The volume is replete with aids and suggestions which experience has found to be helpful indeed.

French Farm Houses, Small Chateaux and Country Churches

By Antonio di Nardo

With Preface by Paul P. Cret

THE buildings of no country offer more in the way of inspiration for present-day architects than those of France. French towns and villages are filled with fine old houses and shop buildings, and the countryside abounds in farmhouses, farm structures singly or in groups, manor houses large or small, and the rural churches and wayside shrines which are among the most beautiful buildings of their kind in the world. All these structures by reason of their direct and practical designing supply the best possible precedent for modern work.

This volume contains more than 300 half-tone illustrations of buildings of this character, and in many instances illustrations of details are given, with drawings showing the bonding of brick or the arrangement of half-timber construction. *The work would be worth many times its cost to any architect interested in the design of domestic buildings and small churches.*

176 pages, 12 x 16 ins.

Price $18 net

ROGERS & MANSON COMPANY

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PRE-ROMANESQUE CHURCHES OF SPAIN. By Georgiana Goddard King. Volume VII, Bryn Mawr Notes and Monographs. Illustrated. 248 pp., 38 floor diagrams. 4¼ x 6½ ins. Price $2.50 Net. Longmans Green & Co., New York.

STUDY of the architecture of the Iberian peninsula possesses all the interest which attaches to study of the antiquities of any land of which the culture represents a fusion of that of many races. Spain is a Mediterranean country, peopled from the outset by Mediterraneans. From all the countries which lie about the Mediterranean basin,—not from the Greek and Latin empires alone and from ancient Carthage, but from Asia Minor, Syria, Constantinople, with whatever came with the Arabs from Persia and Mesopotamia, the culture of Spain was derived, and this fusion produced a rich and splendid civilization, which has left a priceless legacy.

In this volume, by the Professor of History of Art at Bryn Mawr, there is given an inquiry into such of the churches antedating the beginning of the Romanesque period as yet remain in Spain. Churches, convents, and monasteries lined the roads which traversed southern France and northern Spain, leading to the great pilgrimage shrines, and popular devotion provided means for the erection and adornment of buildings in accordance with the best taste of the day. For purposes of study, these churches are divided into three groups in order of time: (1) Those which survive from the time of the Visigothic monarchy; (2) Those built at the time of the reconquest by the Asturian kings; (3) Mazarabic churches built during the ninth, tenth and eleventh centuries. The work, which is quite as much historical and literary as architectural, is an important contribution to a department of study which during the last few years has attracted students, and not the least valuable details of the work are its excellent documentation and its complete bibliography, which are calculated to encourage study.

Books Received

House & Garden's Second Book of Houses. $4. *The Condé Nast Publications.*

Masterpieces of Spanish Architecture. $6. *Pencil Points Press, Inc.*

Provincial Houses in Spain. *By Arthur Byne and Mildred Stapley.* $25. *William Helburn, Inc.*

Modern Swedish Architecture. *By Hakon Ahlberg.* $25. *Charles Scribner's Sons.*

Forestry Almanac. $2. *American Tree Assn., Washington.*

Monograph of the William K. Vanderbilt House. *Written and Published by John V. Van Pelt.*

Masters in Architecture: Soane. *By H. J. Birnstingl.* $2.50. *Charles Scribner's Sons.*

French Provincial Architecture. *By Philip Lippincott Goodwin and Henry Oothout Milliken.* $20. *Charles Scribner's Sons.*

Architectural Construction; *Volume 1. By Walter C. Voss and Ralph C. Henry.* $20 *Net. John Wiley & Sons, Inc.*

Houses & Gardens by Sir Edwin Lutyens. *By Sir Lawrence Weaver.* $25. *Charles Scribner's Sons.*

The House that Love Built. *By W. Francklyn Paris.* $3.75 *Net. The Haddon Press.*

English Furniture at a Glance. *By Charles H. Hayward.* $2.50. *G. P. Putnam's Sons.*

English Architecture at a Glance. *By Frederick Chatterton.* $1.75. *G. P. Putnam's Sons.*

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THE EDITOR'S FORUM

LONDON SURVEY COMMITTEE

FOR more than 30 years the London Survey Committee has continued its work, which is the presentation in book form of the architecture of the ancient London parish churches. During many years the London County Council has been coöperating in this important work, and the result is the issuing of the beautifully printed "Parish Surveys," 20 of which have now appeared counting that covering St. Helen's, Bishopsgate, which is now in press, or possibly already issued.

In 30 years' time a new generation has arisen, and the Committee has seen a profound change in the attitude of the general public toward the historic architectural monuments of England. A Royal Commission is now producing a learned and detailed inventory of ancient buildings, county by county, based largely upon the model of the work of the London Survey Committee. Acts of Parliament have been passed for the better protection of more important buildings, funds are being raised by international effort for the repair or restoration of certain buildings, and the resources of a well equipped government department are being directed to this end under the guidance of His Majesty's Inspector of Ancient Monuments, who is exercising general supervision over this work of national importance.

The particular work of the London Survey Committee possesses, of course, a high degree of interest to architects everywhere, to whom the records of old London architecture constitute a wealth of permanent interest, and the scope of the Committee's work could be broadened and its prosperity increased by the accession of new members. The valuable publications of the London Survey Committee are to be had from its headquarters, 27 Abingdon Street, London, S. W., and its Secretary will gladly respond to inquiries regarding its work or the enlargement of its membership, which it encourages.

COMPETITIONS FOR FELLOWSHIPS

THE American Academy in Rome announces its annual competitions for fellowships in architecture, painting, sculpture, musical composition and classical studies. These fellowships will be awarded after competitions, which, in the case of the fine arts, are open to unmarried men who are citizens of the United States; in classical studies, to unmarried citizens, men or women. It should be noted that in painting, sculpture and musical composition there are to be no formal competitions involving the execution of work on prescribed subjects, but these fellowships will be awarded by direct selection after a thorough investigation of the artistic ability and personal qualifications of the candidates. Applicants are required to submit examples of their work and such other evidence as will assist the juries in making the selections from among the contestants.

For the fellowship in painting the stipend is provided by the Jacob H. Lazarus Fund of the Metropolitan Museum, established by Mrs. Amelia B. Lazarus and Miss Emilie Lazarus.

For each fellowship in the fine arts the stipend is $1,000 a year for three years; in classical studies there is a fellowship for one year with a stipend of $1,000 and a fellowship paying $1,000 a year for two years. All fellows have opportunity for travel, and fellows in musical composition, of whom an extra amount of travel is required in visiting the leading musical centers of Europe, receive an additional allowance of $1,000 a year for traveling expenses. In the case of all fellowships, residence and studio are provided free of charge at the Academy at its extensive headquarters in Rome.

Entries will be received until March 1. For circulars of information and application blanks address Roscoe Guernsey, Executive Secretary, American Academy in Rome, 101 Park Avenue, New York.

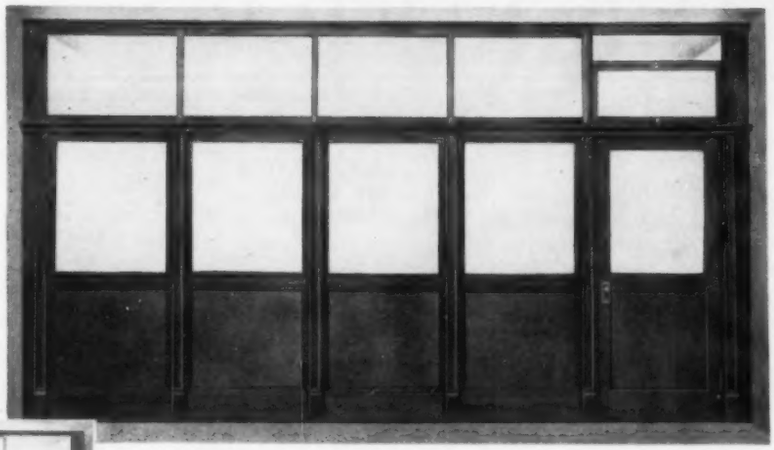
A NEW "FORUM" DEPARTMENT

HIGH costs of construction have made of particular importance the "small" building of every type. In recognition of its importance, THE FORUM has inaugurated a permanent department to be devoted to its study. In this issue on page 33 there will be found a discussion and analysis of "The English Cottage Type of Dwelling"; other varieties of domestic architecture and other kinds of buildings will be dealt with from time to time in a manner which it is believed will make this department of highly practical value.

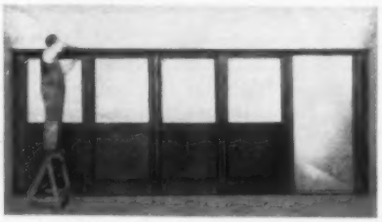
AN INTERNATIONAL EXHIBITION

FORMAL announcement has recently been made by D. Everett Waid, President of the American Institute of Architects, of the holding of an Exposition of Architecture and Allied Arts from April 20, to May 2, 1925, at the Grand Central Palace, New York. This exposition will be held under the auspices of the Institute and the Architectural League of New York, and during the period of the exposition, the American Institute of Architects will hold its 58th annual convention and the Architectural League its 40th annual exhibition.

The exposition is being planned upon broad lines, and among the directors whose names are announced are those of men prominent in every department of effort. The Manager of the exposition is Charles H. Green, 105 West 40th Street, New York.



Removing crown moulding with screwdriver. Extension posts then slip down out of sight into main posts.



Lower crown moulding is also screwed in place. Remove it and the coupling irons and sections are ready to be moved.

Sections and posts come apart with the greatest ease.

Here is the partition shown at top of page, taken apart and ready to be re-erected in new location. Note how compactly it piles for storage or shipment.

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THE EDITOR'S FORUM

S. BRECK PARKMAN TROWBRIDGE

THE architectural profession, not only in New York, but over the entire country, has sustained another great loss through the death, on January 29, of S. Breck Parkman Trowbridge. One of the foremost architects of his time, Mr. Trowbridge was a leading spirit in all organizations and movements tending toward the promotion and wider appreciation of architecture and the allied arts.

After graduating from Trinity College in 1883, and from the School of Architecture at Columbia University in 1886, he was sent to Greece by the Archæological Institute to superintend the erection of the building of the American School of Classical Studies in Athens. Following the completion of this work he studied in the Ecole des Beaux Arts in Paris, and returning to New York, became associated, four years later, with Goodhue Livingston in the firm of Trowbridge & Livingston. As the senior partner of this firm during the past 30 years, Mr. Trowbridge exercised great influence on the development of architecture in this country, not only through the numerous splendid bank and mercantile buildings designed by him, but also through his tireless energy and constructive interest in behalf of the establishment on a firm basis of every form of artistic expression in America. Mr. Trowbridge was an Incorporator, Vice-president and Trustee of the American Academy in Rome, a Fellow of the American Institute of Architects, a member of the National Institute of Arts and Letters, the National Academy of Design, a former President of the Architectural League of New York, of the Society of Beaux Arts Architects, and the Society of American Philhellenes. He was also appointed Chairman of the National Council of Fine Arts by President Roosevelt. Not alone in this country were his services and unusual ability recognized, for his foreign honors include the Legion of Honor, the Greek Order of the Redeemer, Grand Commander of Saint Sava, Serbia; Commander of the Order of the Crown, Rumania; and Honorary Member of the British Institute of Archæology.

NEW BUILDINGS AT HARVARD

ANNOUNCEMENT has been made of the fact that after consideration of the plans submitted by leading architects of the country, the jury appointed to select the design for Harvard's $5,000,000 School of Business Administration has selected that submitted by McKim, Mead & White. This group will be made up of a library, an administration building, recitation hall, research building, a group of dormitories and dining halls and a smaller group of houses to be used as residences for the professors.

AN EUROPEAN TOUR

ATTENTION is called to the fact that the European tours which for two years have been conducted under the auspices of the Institute of International Education will henceforth be directed by the Bureau of University Travel. These tours are planned particularly to meet the needs of practicing architects and architectural students, though a limited number of others who may desire to study architecture or other fine arts for their cultural value will be welcomed as members.

The itinerary for 1925 includes the most interesting places in England, France, Switzerland and Italy, and the departure from New York will be on June 17, the return to New York being planned for September 1. This year's tour will be under the immediate supervision of Professor Albert C. Phelps, of the College of Architecture, Cornell University, whose success with the previous tours made them so helpful to those who were members.

Information regarding the 1925 tour may be had by addressing the Bureau of University Travel, at its headquarters, 11 Boyd Street, Newton, Mass.

AN A. I. A. COMPETITION

THE Octagon House, the Washington headquarters of the American Institute of Architects, is a building of great historic and architectural interest. It is, however, so located that the passerby often does not see the old mansion or realize the interest which it possesses. It has been suggested that it would be well to place, in suitable relationship to the building and the two streets on which it faces, an appropriate device combining the elements of beauty, dignity and durability, which would call attention to the building and furnish information to all interested in the architecture and history of the country. In order to secure a design for such a device, the Building Committee of the American Institute of Architects has instituted a competition, open to all draftsmen, and will award prizes for the designs adjudged worthy under the terms of the program for this competition, which are now published.

The drawings, which must not exceed 24 by 36 inches in size, should show the design at 3 inches to the foot in direct elevation, sections or perspective sketches at any scale being included if desired by the competitor. Drawings should be on white paper in any rendering, and shall be delivered to D. Everett Waid, President of the American Institute of Architects, 1 Madison Avenue, New York, on or before April 1, 1925. All drawings must be sent flat, and with each should be, enclosed in a plain, opaque, sealed envelope without superscription or mark of any kind, the name and address of the competitor.

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THE EDITOR'S FORUM

ARCHITECTURAL EXPOSITION

PLANS now far advanced indicate that the forthcoming Architectural & Allied Arts Exposition, to be held at the Grand Central Palace, New York, from April 20 to May 2, will be a success far beyond the expectations of its organizers.

The four floors with over 200,000 square feet of area will contain somewhat over 300 exhibits. Practically everything from the cellar to chimney top in both home and office buildings will be shown. Every effort is being made to attract the attention of prospective home owners. A too technical atmosphere will not be given the exposition. The management has arranged a lavish display of everything that can be found in the home; in fact the whole exposition will be a veritable encyclopædia of architecture, decoration, building materials, utilities, and equipment. Complete rooms will be shown.

The Annual International Conference on City Planning will be held in New York within the exposition. For the first time, official drawings of the Russell Sage Foundation for a plan of New York will be shown. Among the plans is one calling for three distinct levels, including elevated sidewalks; from them New Yorkers will get their first glimpse of what may actually become a realization.

An elaborate plan for a system of Federal highways running all through Mexico has been made and will be exhibited. The Architectural League of New York, which has been holding its annual exhibits at its headquarters in the Fine Arts Building, will coöperate with the American Institute of Architects and hold its 1925 exhibition in conjunction.

INTERNATIONAL PLANNING CONGRESS

THE International Congress on Town, City and Regional Planning will be held in New York, April 20 to 25, at the invitation of Governor Smith and of the American City Planning Institute, the National Conference on City Planning, and several other associated organizations. An exhibit of city planning material from all over the world,—probably the largest and most comprehensive ever assembled,—will be shown at the Hotel Pennsylvania and also at the Grand Central Palace, the latter section as part of the Architectural Exposition to be conducted under the auspices of the American Institute of Architects and the Architectural League.

The congress will bring together the most prominent city planners in the world. The International Federation of Town & Country Planning & Garden Cities, which meets for the first time in America, will be represented by some of the most eminent city planners and housing authorities in Europe. The congress will be of especial interest and value to this country, since it will give opportunity to secure first-hand information upon an important phase of city and regional development, namely, the better distribution of population and its effect on problems of transportation and traffic. City planning in European countries has been approached chiefly from the angle of planning for housing, and for the better use of land, rather than the mere planning of streets and laying out of land. The housing shortage and the increased cost of building in America have emphasized the need of giving more attention to the actual distribution and character of buildings constructed.

ARCHITECTURAL PRIZES

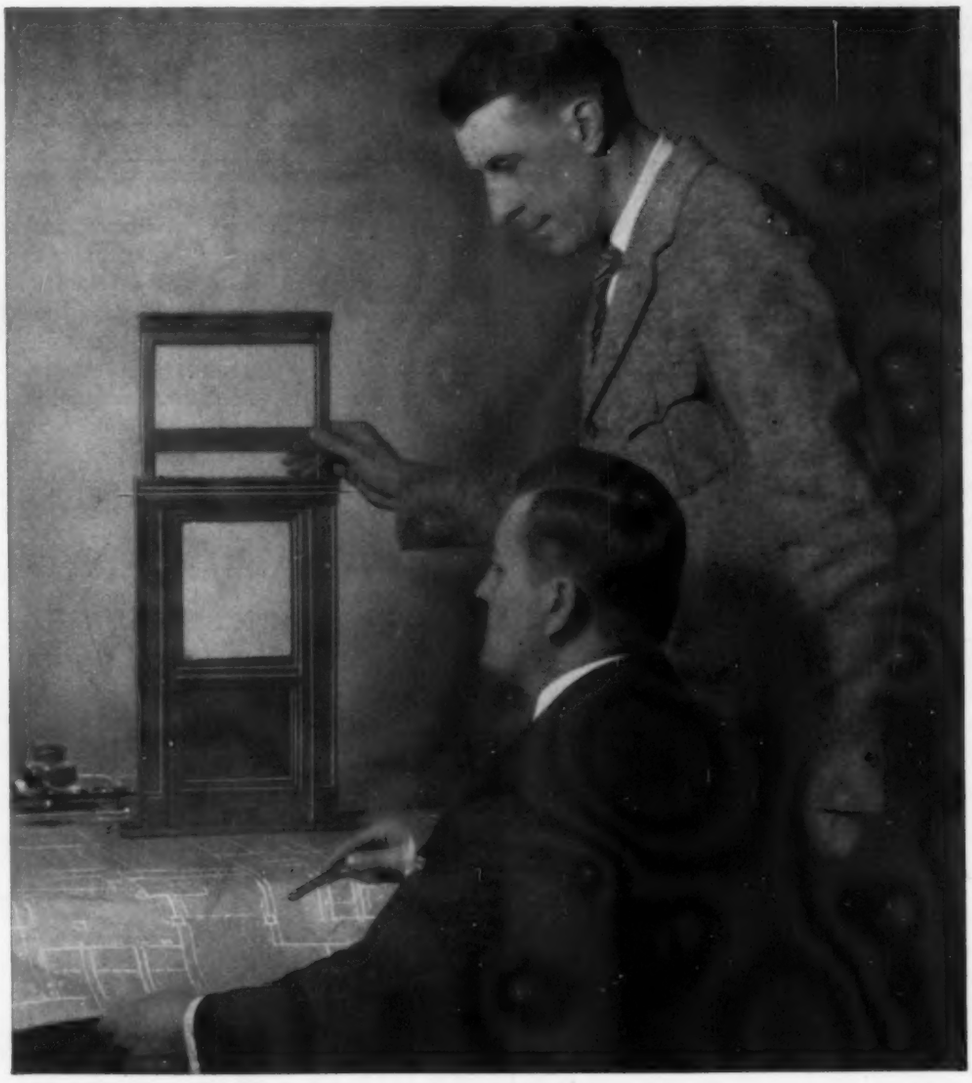
OWING to the generosity of friends, the School of Architecture of Princeton University has been enabled to offer two annual competition prizes of $800 each, the prizes for the year 1924-1925 having been won by E. J. Gambaro and C. H. Dornbush.

The purpose of these prizes is to place at the disposal of experienced draftsmen of unusual ability, who desire to complete their professional training by contact with the academic side of architecture, the advantages found in the School of Architecture, the Department of Art and Archæology, and the Graduate School, of Princeton University.

ARNOLD W. BRUNNER

WITH the death on February 14 of Arnold W. Brunner, there was added one more name to the list of distinguished American architects who have died during the past few months.

Born in New York in 1857, Mr. Brunner was graduated from the Massachusetts Institute of Technology in 1879. During some 46 years of active architectural practice he designed literally hundreds of buildings, among the many in New York being Mt. Sinai Hospital, the stadium of the College of the City of New York, the School of Mines at Columbia, and the Students' Building at Barnard. He also designed buildings in Washington, Philadelphia, Cleveland, Toledo, Harrisburg and West Point. Mr. Brunner had served as President of the Fine Arts Federation, Vice-president of the National Sculpture Society, President of the New York Chapter of the American Institute of Architects, and President of the Architectural League of New York, a member of the National Council of Fine Arts, Treasurer of the National Institute of Arts and Letters, Vice-president of the American Civic Association, and he was a Fellow of the National Academy. He also served as a member of the New York Board of Education for a term in 1902.



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THE EDITOR'S FORUM

ROTCH TRAVELING SCHOLARSHIP

EXAMINATIONS for the Rotch Traveling Scholarship will be held this year during the week beginning April 13. Candidates must be citizens of the United States and under 30 years of age on May 1, of the year when they present themselves, and may be admitted, when so qualified, under one of two categories:

A. With no architectural schooling, but experience in professional work during two years in Massachusetts in the employ of a practicing architect resident in Massachusetts, who is a member of the American Institute of Architects.

B. With one year in an office as above, and three years in a Massachusetts architectural school approved by the Scholarship Committee.

Examinations will be of two kinds, preliminary and final. Applicants of Class A shall take both. Applicants of Class B shall take only the finals. Applicants are expected to register their names with the Secretary of the Committee at least 15 days before the examination. Failure to register may, at the option of the Committee, disbar the candidate for that year, though he may compete again later.

The candidates who have, in the judgment of the Committee, satisfied the preliminary conditions and are qualified to properly benefit by the scholarship, will be admitted to the finals, which will include:

1. A 12-hr. sketch to compose an architectural motive.
2. A 12-hr. sketch to compose an architectural plan.

From those applicants who have presented satisfactory sketches the Committee will make a choice of not over four, who will be admitted to the final competition, which will include an architectural composition of an extended nature. The Boston Society of Architects has yearly offered a prize of $100, which has been awarded to the candidate placed second on the recommendation of the Committee.

The candidate chosen under the conditions of the final competition will be awarded the scholarship for a term to be determined by the Committee, but of not more than two years. The scholar will receive $2,000 for a one-year term, or $3,000 for two years, these amounts to be payable quarterly. For further information, applications should be made to C. H. Blackall, Secretary, 20 Beacon Street, Boston.

A CORRECTION

IN an advertisement carried in a recent issue of THE FORUM the name of the architects of the Fifth Avenue building of Saks & Company was incorrectly given. The architects, as is well known, are Messrs. Starrett & Van Vleck, of New York.

AMERICAN CONSTRUCTION COUNCIL

THE spring meeting of the American Construction Council will be held at the Hotel Biltmore, New York, on May 8 and 9, 1925. The general program includes these sessions:

1. Friday, May 8, 10 A. M. Meeting of the Board of Governors and others interested. At this meeting general conditions affecting the construction industry nationally, will be considered and the Council's usual statement to the public formulated, followed by a business session of the Board.

2. Friday, May 8, 2 P. M. Conference on Better Building with special reference to ways and means of furthering the building of better homes and securing proper housing financing,—participated in by manufacturers, distributors, representatives of financial interests, design, and management, and those who have to do with the actual erection of buildings.

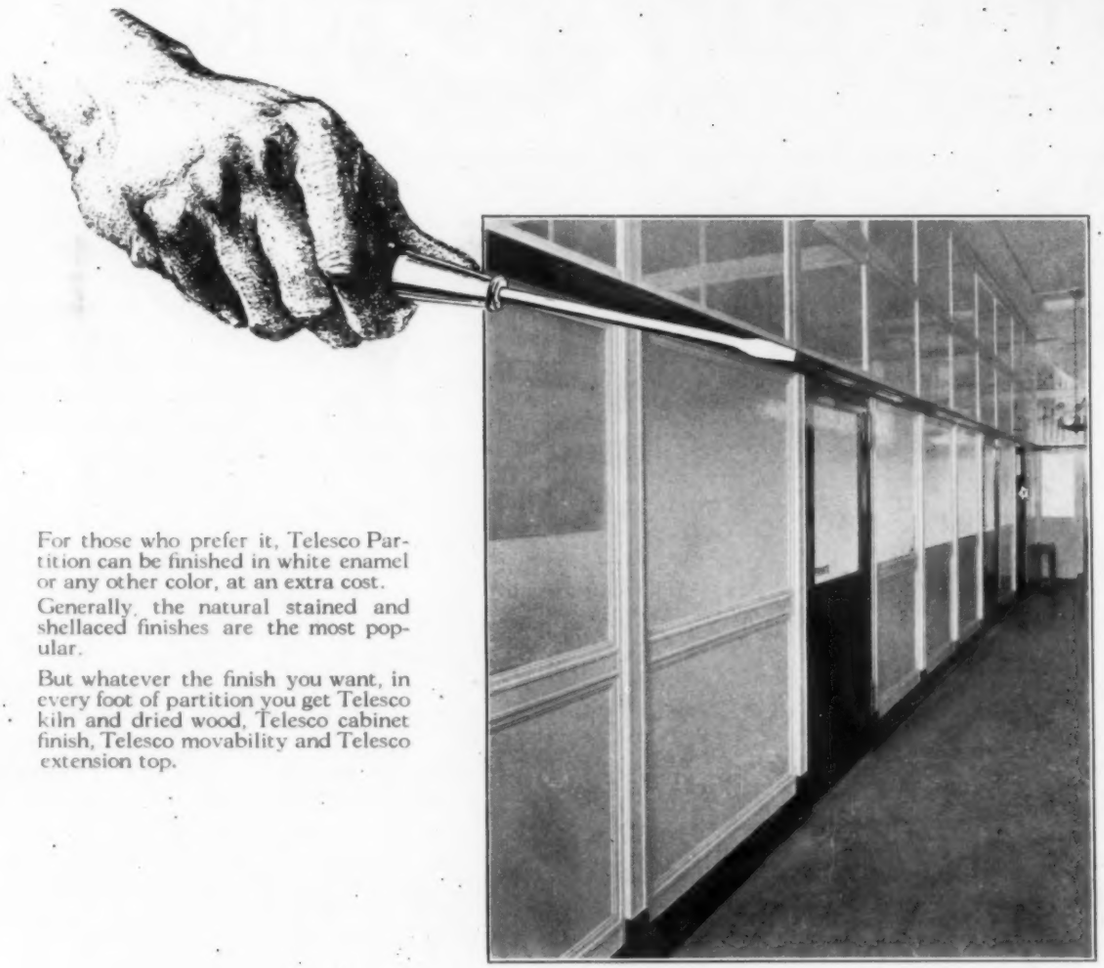
3. Saturday, May 9, 10 A. M. National Conference on Elimiination of Construction Peaks and Depressions. The causes of seasonal inactivity have been extensively analyzed, and certain remedies will be suggested. The purpose of this conference is to assist in bringing about that coördination within the industry and its related groups necessary to secure the desired correctives. This conference will be participated in by all elements, including transportation, which are concerned with or would be affected by greater stabilization of the construction industry.

ARCHITECTS FOR YALE THEATER

ANNOUNCEMENT is made of the appointment of Blackall, Clapp & Whittemore, of Boston, as architects of the theater to be built in New Haven as a center for the work of the Department of Dramatic Art to be conducted at Yale by Professor George P. Baker. The building will contain, in addition to the playhouse proper, a library, workshop, class rooms, and various other adjuncts.

WHITE HOUSE FURNISHINGS

UNDER the leadership of President Coolidge, a movement has been begun toward collecting for the White House specimens of the work of early American cabinet makers and other craftsmen with a view toward maintaining its interior in accordance with its original design. Appointment has been made of a committee consisting of representatives of the American Federation of Arts, the National Commission of Fine Arts, the National Academy of Design and the American Institute of Architects, together with the officer in charge of public buildings and grounds and five members representing the public at large, who will decide what objects shall be accepted to become the property of the United States.



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THE EDITOR'S FORUM

EXHIBITS FROM SCHOOLS

SEVENTEEN American and six foreign architectural schools sent architectural and art work of their students to the recent Exposition of Architecture and the Allied Arts. It is believed that so far as institutions for architectural training are concerned the exhibition was the most enlightening demonstration of the progress of architectural education in this country since the Beaux Arts Institute of Design first began to encourage competitions.

The makng of the exhibit was in charge of William F. Lamb, and in commenting upon it he said: "The theory of the presentation of the problems to the schools and their methods of executing them have been derived from the Ecole des Beaux Arts in Paris, with the necessary modifications to suit our American environment. I cannot say that we have surpassed the old school yet, but there has been such a tremendous improvement in the character of the work done by the present-day architectural students in this country that the need of attending the Paris school is, perhaps, not so great as it once was.

"This phase of the exhibition will, perhaps, not make a decided appeal to the public in general, yet it will be invaluable to the younger architectural students, showing them at one time what is being done, not only in this country but elsewhere."

The institutions from which exhibits came include: Columbia University, School of Architecture; Yale University, School of Fine Arts; George Washington University, School of Architecture; Harvard University, School of Architecture; Armour Institute of Technology; University of Illinois; Boston Architectural Club; Rotch Traveling Scholarship; Massachusetts Institute of Technology; Princeton University; Cornell University; Syracuse University; John Huntington Polytechnic Institute; University of Pennsylvania; Carnegie Institute of Technology; Pennsylvania State College; University of Washington; Fontainebleau School of Fine Arts; Beaux-Arts Institute of Design; LeBrun Scholarship Fund; American Academy in Rome, Committee on Landscape Architecture; Foreign Exhibit, and the University of Oregon, with possibly a few others.

STURGIS COLLECTION

THROUGH the generosity of Mrs. D. N. B. Sturgis, the Department of Architecture of George Washington University has received the large and important collection of architectural drawings and photographs formed by the late Russell Sturgis. This collection, which consists of several thousand items, the accumulation of years of travel, study and writing, is now being catalogued and otherwise prepared for addition to the Department.

BOSTON MURAL PAINTINGS

THE management of the First National Bank of Boston issues a printed description of the four decorative panels, depicting the sea and some of its ships, which were painted by N. C. Wyeth as part of the decorations for its new building. The panels deal with four different periods or phases of shipping, as it has existed at various times during the world's history, showing: Phœnician Biremes; Elizabethan Galleons; Clippers, and Tramp Steamers. The murals, particularly appropriate for use in a city long identified with shipping and commerce, are among Mr. Wyeth's most successful work.

IN MEMORY OF PIERRE LE BRUN

SEVERAL hundred volumes of the works of de Montaigne have recently been given to the Princeton University Library by Mme. Pierre Le Brun. The gift, which was made in the name of Pierre Le Brun, also includes a notable collection of Rabelais' works and commentaries on his writings.

Professor Louis Cons of the Princeton faculty said in commenting on the gift: "The Princeton University Library now possesses one of the four or five leading collections of de Montaigne's works in the world. This collection is one of the two complete in the United States, and it is without doubt one of the richest and most significant collections of de Montaigniana extant."

All of the known editions of the great author's works published before his death in 1592 are represented in this collection. The most important book is the famous 1580 edition of de Montaigne's essays.

TILE FOR HOSPITAL USE

THE Mellon Institute of Industrial Research issued not long ago a brochure on "The Adaptability of Tile to Hospital Use." This is a publication in booklet form of a preliminary report presented to The American Hospital Association, at Buffalo, October 9, 1924, and it makes known the results of the research which is being conducted under the auspices of the Associated Tile Manufacturers for the determination of the suitability of tile for specific uses. The properties of tile are being studied broadly, and its adaptability as a flooring material is being considered from chemical, physical and hygienic viewpoints. The object of this progress report is to summarize to date the experimental findings that are of special interest to hospital officials.

Architects, constructional engineers and builders interested in the use of tile in various ways in hospitals are invited to apply for copies of the brochure, which are to be had of the Mellon Institute of Industrial Research, University of Pittsburgh.

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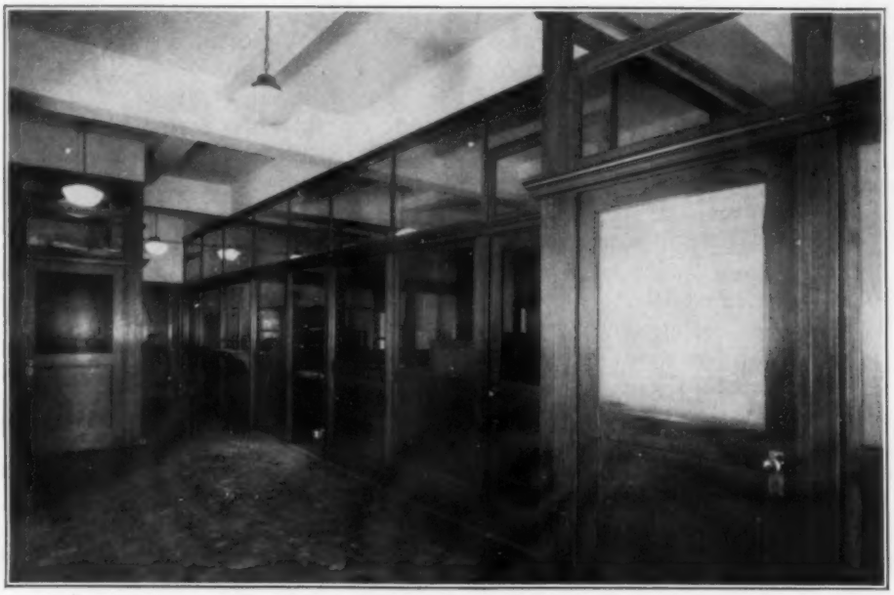

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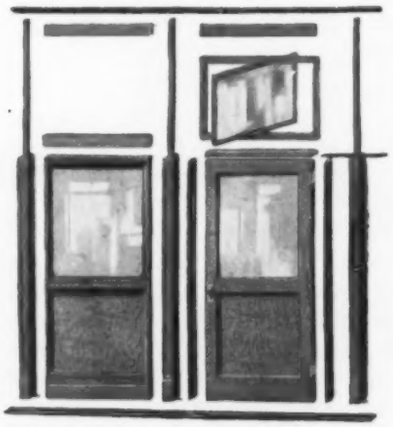

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THE EDITOR'S FORUM

VILLAGE PLANNING

"RURAL PLANNING" is the title of an interesting bulletin just issued by the United States Department of Agriculture. A preface to the bulletin says: "City planning for convenience, efficiency, health and social well being has become a pressing public problem, especially since the rapid increase in urban population. But what of the millions who live in our thousands of villages? What are they doing to make their living and social conditions more healthful, comfortable, attractive and effective, and to provide for population increase? Villages do not always have the benefit of a detailed town plan prepared by experts, but rural community effort has already accomplished notable results in many instances. Why should villages be planned? Who should initiate the planning? Where should responsibility for action and accomplishment lie? How can coöperation effect desirable results? Should plans include the future? What will they cost, how can they be financed, and what difficulties will be encountered?"

This bulletin is an attempt to answer these questions by giving instances of what has been done in numerous villages in many states, as well as to indicate the importance and the facility of such planning.

AN AWARD IN PHILADELPHIA

THE medal of honor given by the Societe des Architectes Diplomes par le Gouvernement Francais to laymen, for distinguished service in the advancement of art and architecture, was awarded this year to Eli Kirk Price of Philadelphia for his activities in connection with the planning of the Philadelphia Parkway and the new Philadelphia Museum, and for work on the general development and beautifying of the city. The presentation took place at a dinner at the Philadelphia Club, on the evening of May 20, in the presence of a distinguished gathering. Clarence Zantzinger presided, the medal was presented by Chester H. Aldrich, President of the American Group of the Societe des Architectes Diplomes par le Gouvernement, and addresses were made by George Wharton Pepper, by Provost Penniman of the University of Pennsylvania, by Ambassador Roland S. Morris and by M. S. Medary.

THE SMALL CITY STADIUM

FROM the *American City Magazine* there has been reprinted for general distribution an article on "A Stadium in the City of the Average," by Daniel N. Casey, of the Harrisburg Chamber of Commerce. This brochure gives a study of the growth of the stadium idea, an analysis of the stadium's plan and practicability, and something regarding its feasibility in small cities or those of moderate size. That a stadium is by no means beyond the reach of small cities is proved by the existence of stadiums in East Orange, N. J., Haverhill, Mass., and Parkersburg.

ARCHITECTS AID LOUVAIN

DURING the progress of the Exposition of Architecture and Allied Arts, a collection of books on architecture was presented to the library of the University of Louvain. The gift was presented by D. Everett Waid, in behalf of the American Institute of Architects, and was accepted by Joseph F. Stillemans, representing the University.

A TREE SURGEON IN CONGRESS

IN the *Congressional Record* for January 29, 1925, there is printed in full the address given in the House of Representatives by Hon. Martin L. Davey, Member of Congress from the 14th District of Ohio, on "Tree Surgery." Mr. Davey is perhaps better known as a tree surgeon than as a congressman, and his address will be of interest to architects, landscape architects and planners of towns and cities. Much of the subject matter deals with the questions of plant food, soil exhaustion, decreasing productivity, abandoned farms and adequate food supply, and the address was given in connection with the Muscle Shoals debate during the past few months.

A PORTRAIT IN RELIEF

THE American Institute of Architects announces its acceptance of a marble relief portrait of the late Richard Morris Hunt, the third president of the Institute. The gift, which comes from Mrs. Richard Sharp Smith, whose husband was associated with Mr. Hunt in his notable work at Biltmore, N. C., possesses particular interest as having been made by Karl Bitter, the well known sculptor.

THE NEW YORK ARCHITECTURAL LEAGUE

AT a recent meeting of the Architectural League of New York, Donn Barber was elected president in succession to Harvey Wiley Corbett, and as vice-presidents there were elected Charles Keck, Ezra Winter, James L. Greenleaf and Stepan de Kosenko. To Charles H. Green was awarded the League's gold medal in recognition of his services as a manager of expositions, and to Howard Greenley, a former president of the League, was given a parchment certificate regarding his work in arranging the Exposition of Architecture and Allied Arts.

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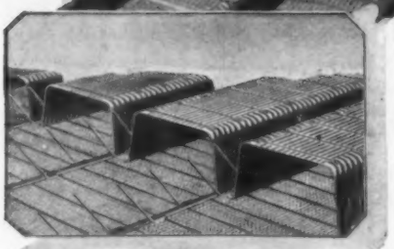

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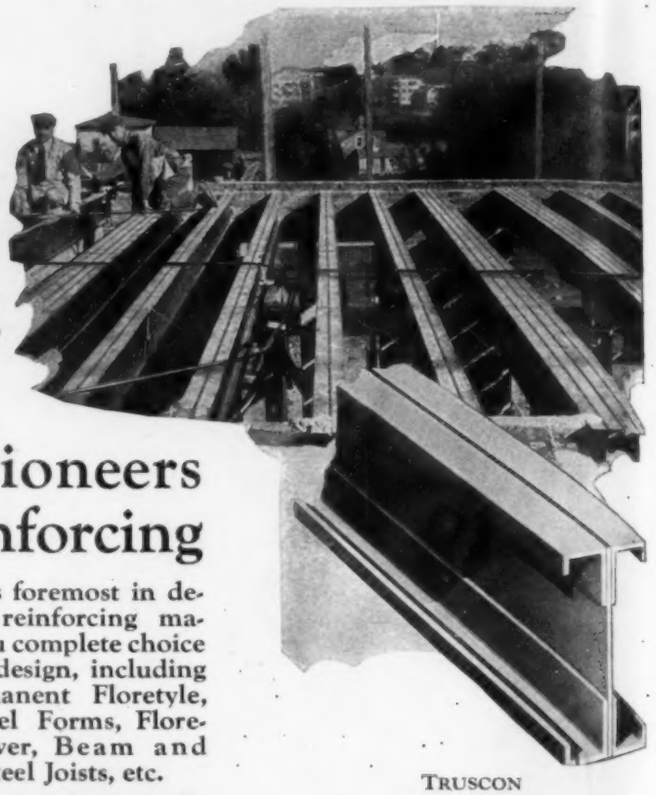

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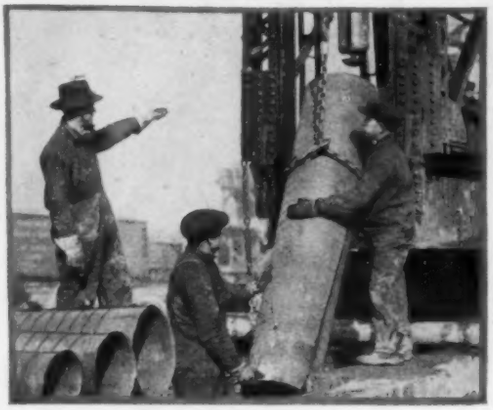

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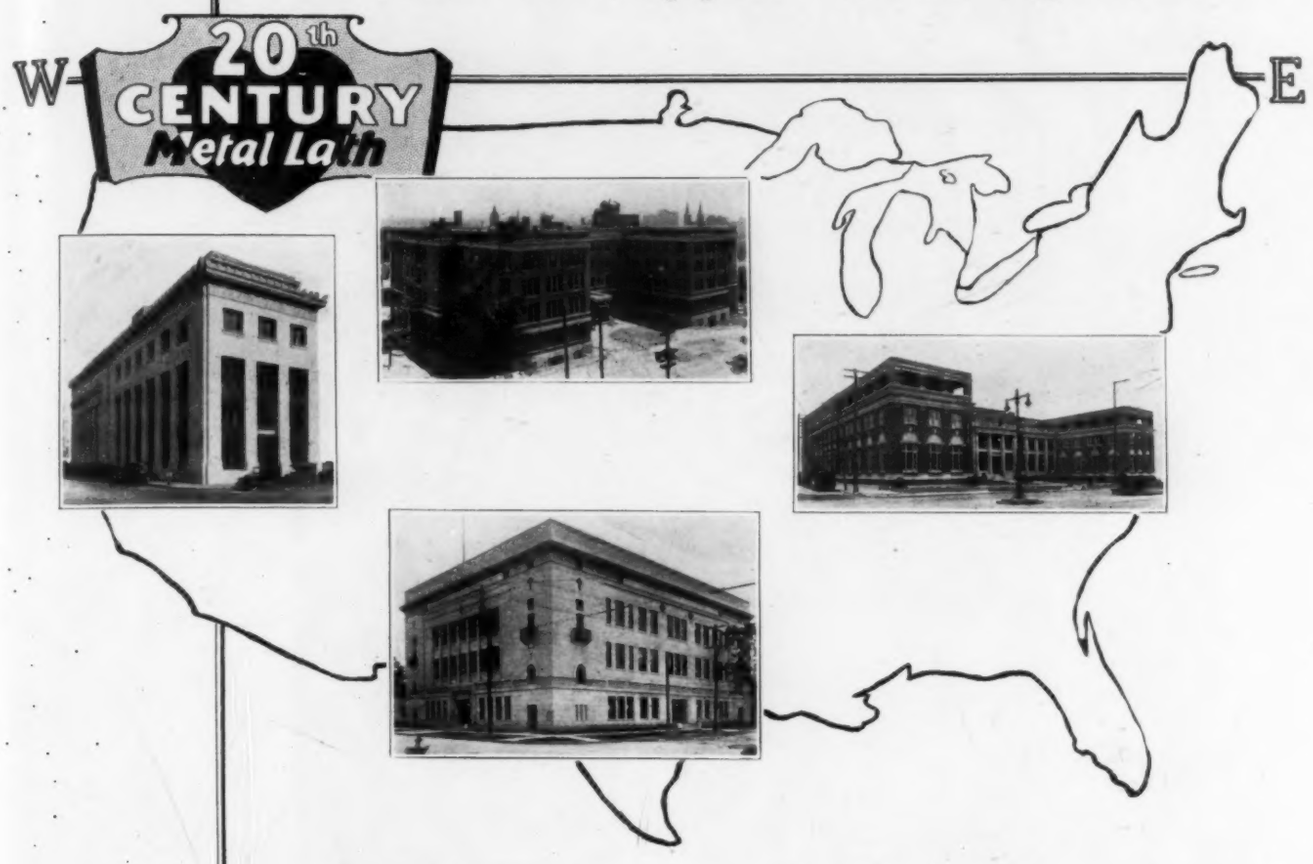

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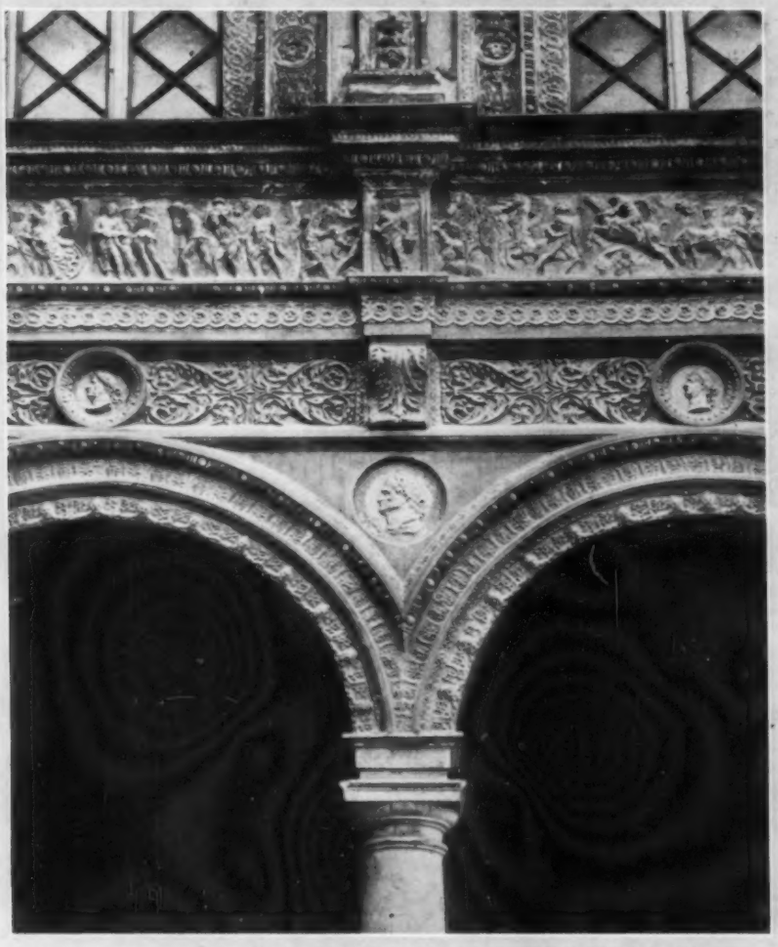

Detail of Terra Cotta, Palazzo Stanga, Cremona, Italy

(from "Terra Cotta of the Italian Renaissance," published by the National Terra Cotta Society)

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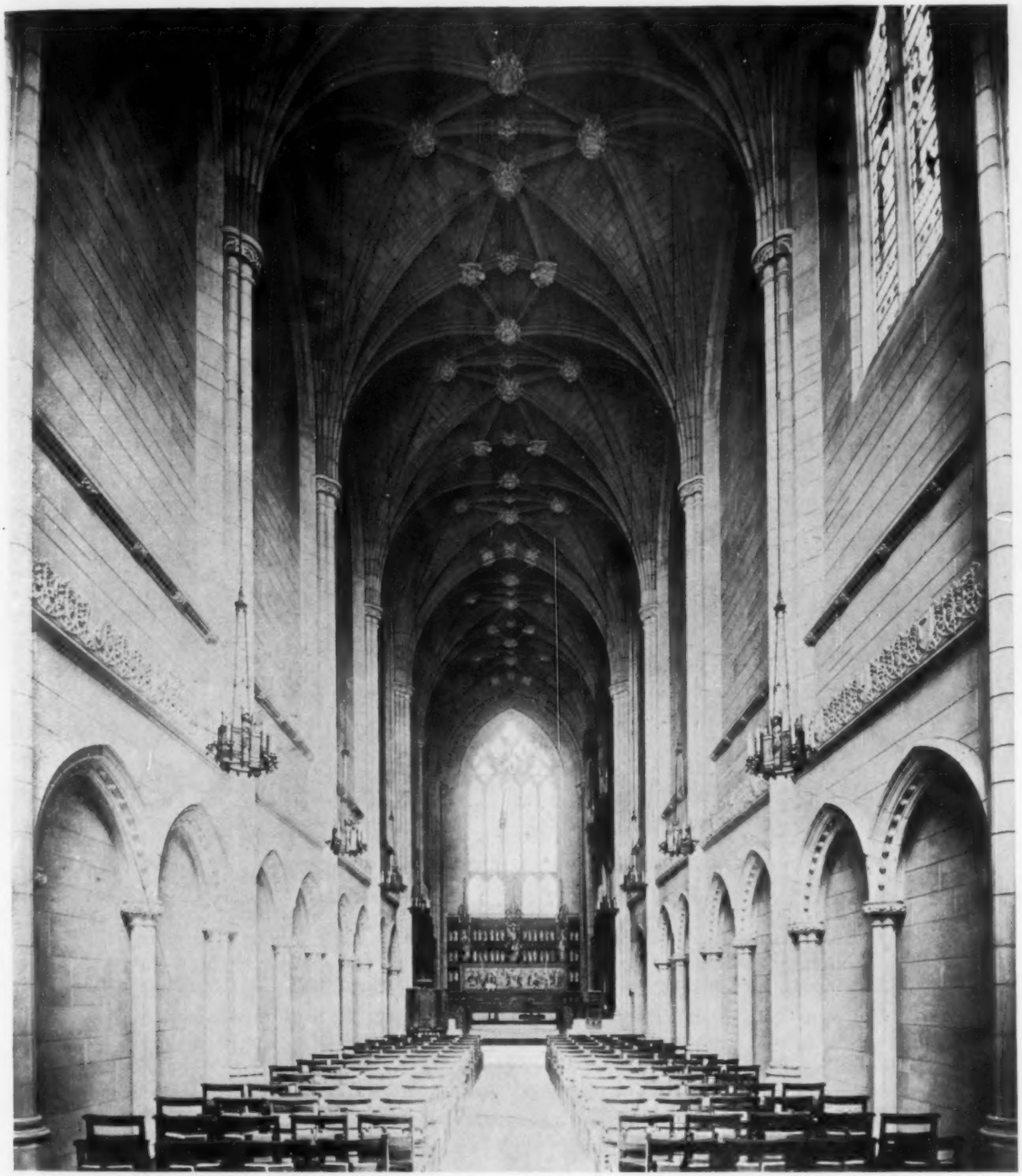

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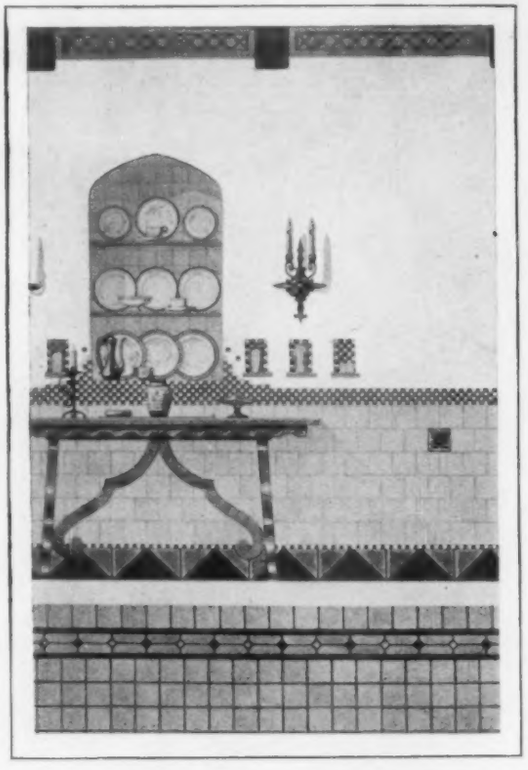

Standard size plate illustration in full colors, with detailed description for specifying the tiles shown in this Spanish-American Dining Room, will be furnished to architects upon request.

The tile design and the furnishings of this room offer an authentic interpretation of the spirit, the motifs and the decorative manner characteristic of Hispanic-American Architecture.

COLOR IN ARCHITECTURE

THE HISPANIC-AMERICAN STYLE

WHEN the Conquistadors of old Spain came to the new world they brought with them all that love of luxurious COLOR, born out of a long experience in the sunny Mediterranean peninsula and out of a heredity that combined the bloods of oriental Moor, Teutonic Visigoth, romantic Latin and native Iberian. A wealth of COLOR in architecture, introduced through the medium of wonderfully interesting TILES, was one of Spain's many contributions to the artistic expression of the New World. Puebla de las Angeles, near Mexico City, became the centre of a flourishing tile industry the influence of which eventually reached throughout Old Mexico and spread to our own Hispanic Southwest. To catch the true spirit of this Hispanic-American work, with its Spanish-Indian motifs, its warmth of COLOR and beauty of form, has been the aim of the creator of the accompanying design. So successful has he been that now the owner of a Hispanic-American house may have a dining-room, a living room, a sun-room, a kitchen, a bath, a patio—or all of these—faithfully carried out in beautiful COLORFUL TILES.

ASSOCIATED TILE MANUFACTURERS

BEAVER FALLS PENNSYLVANIA

Producers of *Beautiful* TILES

Alhambra Tile Co.
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HEGGIE-SIMPLEX

[FORMERLY SIMPLEX]

ELECTRIC-WELDED STEEL BOILERS

RIALTO THEATRE, Joliet, Illinois.
Heated by Heggie-Simplex Boilers.
Rapp & Rapp, Chicago, Architects.
J. J. Borchand, Chicago, Heating Contractor.

It's *direct* heating surface that counts

An unusually large fire-box, opening into a roomy *extra* combustion chamber, provides the Heggie-Simplex Boiler with an exceptionally large direct heating surface.

There, surrounded by freely circulating water, the gas and soot must undergo thorough combustion before they are permitted to enter the double set of tubes. This direct contact, plus the triple back-and-forth travel of the gases, materially increases the boiler's efficiency—cutting fuel bills from 25% to 45%.

The Heggie-Simplex is easy to install because it is a welded steel *unit* requiring no bricking, and very little piping, and it occupies ⅓ to ½ less space than ordinary boilers.

WRITE for detailed information and the experience of Heggie-Simplex users

HEGGIE-SIMPLEX BOILER COMPANY, Joliet, Illinois

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STEEL BOILERS

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Make Our Display Rooms Your Workshop for Solving Color Schemes

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for Pleasing Exteriors

Rich and soft colorings properly blended into a pleasing picture—permanent and weatherproof—aptly describes the blend of Acme Den-Tex face brick used in the Tyler Junior High School, manufactured at our Denton, Texas, plant.

The colors from this factory range from Light Tan, Deep Russet, Nut Brown and Golden Bronze to Purplish Gunmetals and Manganese Grays, in Matte and Ruff textures. These face brick are especially adaptable for English, Norman, Flemish, Tudor and Gothic architectural designs.

We Offer the Architect—A Color for Every Color Scheme; a Brick for Every Type

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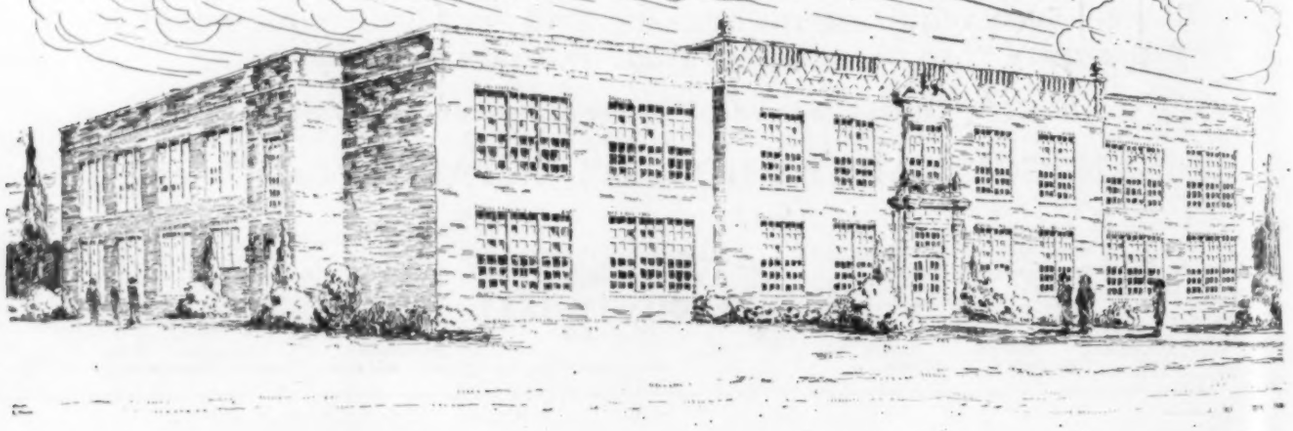


AMERICA NEEDS MORE GARAGES IN HER CITIES

Setting the Pace

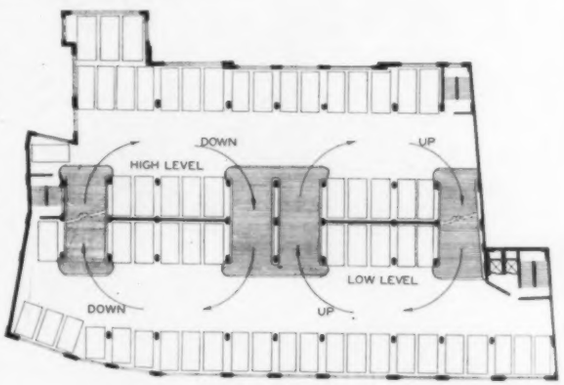
Jordan Marsh Company, Boston, Mass., a leader in modern retail merchandising, is building a customer-parking-service garage to house 700 cars. Wisely chosen, the site is a short block and a half from the store—and two minutes' walk.

The building will occupy a plot 189 x 106 feet and will be 8 stories high. H. M. Haven and A. T. Hopkins, Inc., Architects, have incorporated double d'Humy Motoramps in the plan, as the most efficient means of interfloor travel.

There are 269 other Department Stores in American cities whose location on traffic congested streets hampers their customers' use of automobiles for shopping trips. Ultimately the progressive ones among this number will follow the lead of Jordan Marsh, and other stores. Are you developing the garage idea with the department stores in your city? There is business to be had.

We will work with you in shaping up the preliminaries — and entirely without obligation.

Are you receiving our Garage Design Data Sheets? If not—ask for them.



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21 East 40th Street · New York, N. Y.

GARAGE ENGINEERS

CONSULTANTS ON PROMOTION GARAGE OPERATING SYSTEMS

E S

393-7th Avenue, New York City
Starrett & VanVleck, Architects

A new design of main floor position indicator installed in this building

An Order That Has Greater Significance Than Mere Dollars and Cents

393-7th Avenue is the third Equitable Life Assurance Society building in New York City, to be equipped with E-S apparatus.

For this building we have supplied the elevator signals, Crowell Pneumatic elevator door operators and roller bearing door hangers.

Based on experience gained in that mammoth miracle of efficiency, 120 Broadway, only 24 elevators were installed in 393 Seventh Avenue. This imposes the utmost precision and speed on the elevators and elevator equipment.

One second's time is all that is allowed for each movement of the doors and gates—approximately three times the speed of the ordinary elevator door.

Don't you agree that this third contract, to fulfill such exacting requirements is rather an unusual commentary on the dependability of the service from E-S equipment?

ELEVATOR SUPPLIES COMPANY, Inc.

Main Office and Works
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Fiske Brick

ARCHITECTS who seek distinction in color and texture of face brick find the answer in Fiske Brick.

"TAPESTRY" — The rough-textured brick with a wealth of color variations.

"FISKLOCK" — The two-in-one brick with the beauty of "TAPESTRY."

Fiske & Company
Incorporated
NEW YORK BOSTON WATSONTOWN, PA.

J. M. White, Architect
WOMEN'S DORMITORY, UNIVERSITY OF ILLINOIS
Built of "Western" Cloister Brick, Red Range

CLOISTER BRICK are made in distinctive and beautiful red and brown ranges, and have been extensively used in all types of structures, from residences to public buildings.

The quality of CLOISTER BRICK is best evidenced by the fact that our production greatly increases from year to year, and is constantly going into a wider range of territory.

CLOISTER BRICK is an impervious shale brick, with a rich, soft, velvety texture, that is in no sense extreme, but gives life to the wall surface.

Descriptive Booklet, sent on request

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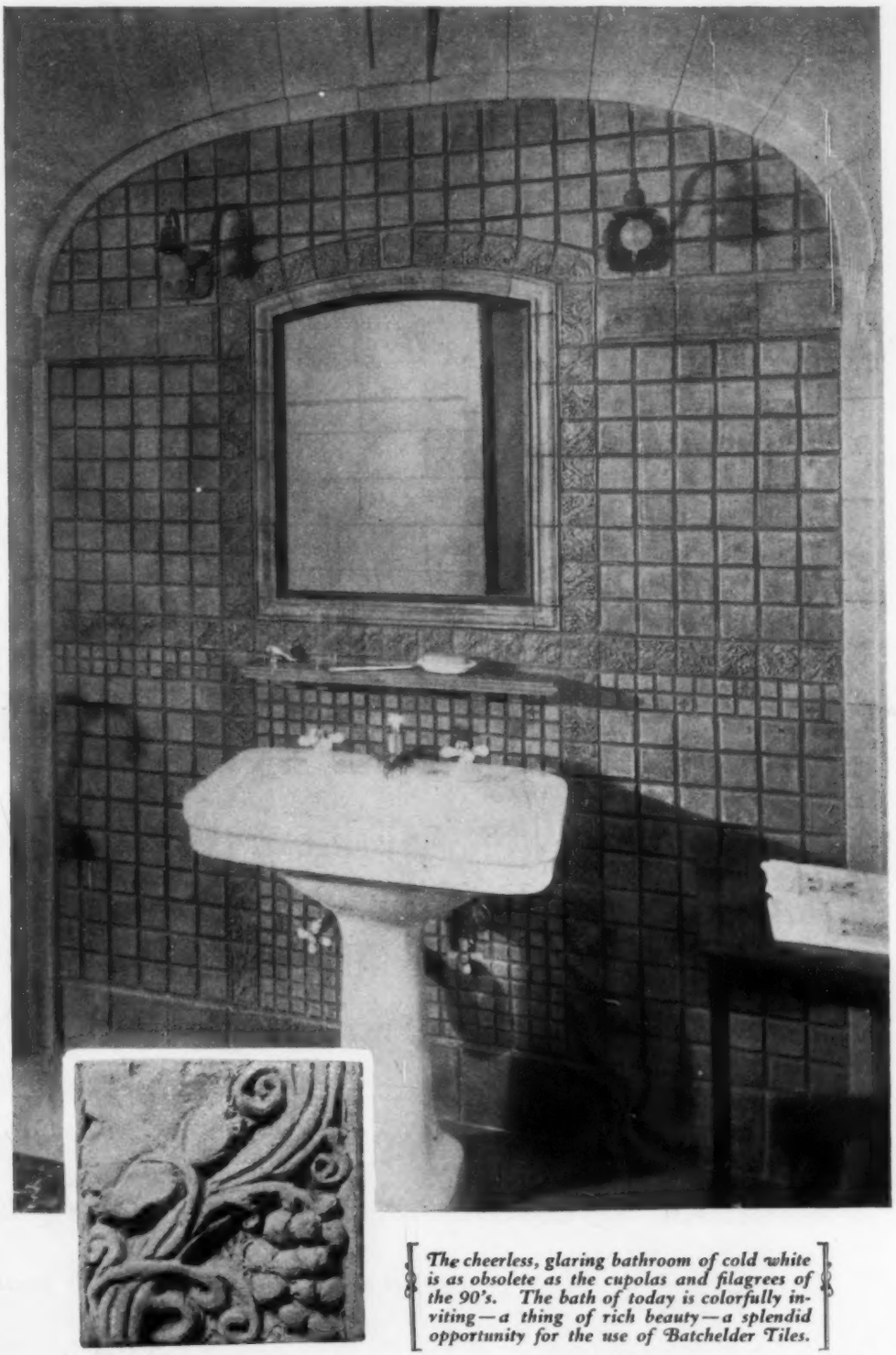
CAPACITY OVER ONE HUNDRED AND THIRTY-FIVE MILLION A YEAR

BATCHELDER TILES



The cheerless, glaring bathroom of cold white is as obsolete as the cupolas and filagrees of the 90's. The bath of today is colorfully inviting—a thing of rich beauty—a splendid opportunity for the use of Batchelder Tiles.

THE name "Batchelder" is a trade name, applicable only to the tiles produced by the Batchelder-Wilson Company.

Batchelder Tiles are unique in coloring, texture and design and in their exclusive process of manufacture.

We are eager to co-operate with architects in the creation of distinctive effects—we are prepared to design and execute special work and to submit sketches on any contemplated project.

See Sweet's Catalogue or write for complete information.

BATCHELDER-WILSON COMPANY
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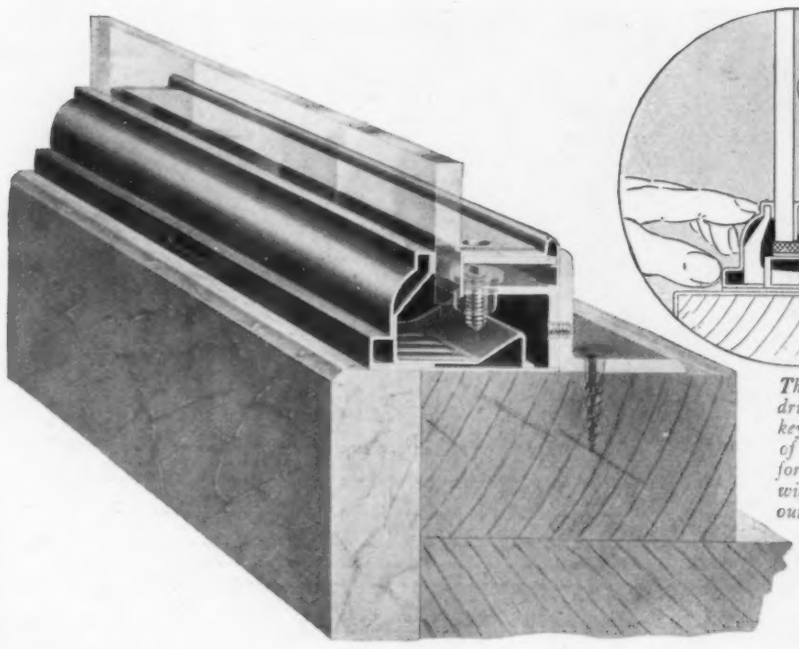

The vertical machine-screw is driven (by means of the Zouri key) against the inclined plane of the inner molding, which is forced to move inward bringing with it the outside molding. The outside molding presses the glass against the metal sash. With the use of the small Zouri key, too much pressure cannot be exerted; due to the movement of the entire molding, localized pressure therefore is eliminated

Zouri Indirect Key-

Notice how *safely* Zouri store fronts are set—by the indirect, key-set method. You bring the molding to the glass in a perfectly even, velvet-like grip. No localized pressure, no pinched spots, no sprung molding. Cracks won't start under stress of wind or shock. Zouri

Useful detail sheets and data book

This handbook has been written for architects, contractors and builders. It deals primarily with construction and gives plans and diagrams showing best approved methods of window and display space arrangement. The detail drawings will be welcomed by specification writers. A word from you will bring them—promptly.

ZOURI KEY-SET STORE FRONT CONSTRUCTION

-Set Store Fronts

windows are, of course, approved by the underwriters. They're endorsed by experienced architects and builders. The Zouri method satisfies everyone concerned. There is a thoroughly responsible distributor near you—he'll gladly co-operate. Ask us his name.

Zouri Drawn Metals Company

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1608 East End Avenue, Chicago Heights, Illinois

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Above, Detail of Motion Picture Theatre, Chicago Heights, Illinois, Henry L. Newhouse, Architect; at left, Iris Motion Picture Theatre, Los Angeles, California, Frank Meline Co., Designers and Builders; at right, Motion Picture Theatre, Columbus, Ohio, Tresselt & Bassett, Architects

Face Brick and "The Movies"

IN ALL parts of the country—in the metropolitan centers, in the cities and in the smaller towns—architects have selected face brick as the most adaptable material for motion picture theatres.

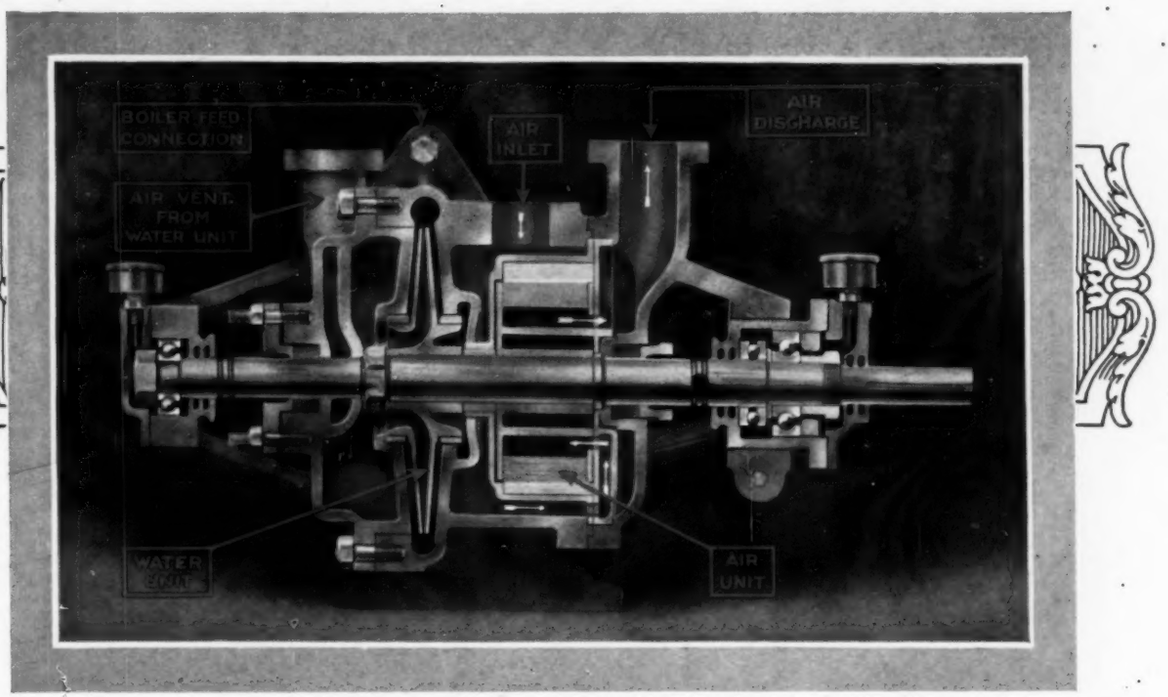
The skill and versatility they have shown in the handling of this plastic material for this purpose is but another evidence of the artistic possibilities of face brick.

You will find many splendid examples of the modern use of face brick in "Architectural Details in Brickwork," a portfolio of more than a hundred halftone plates, issued in three series, each enclosed in a folder ready for filing. This series will be sent, postpaid, to any architect making request on his office stationery.

"English Precedent for Modern Brickwork," a 100-page book, beautifully illustrated with halftones and measured drawings of Tudor and Georgian types and American adaptations, sent postpaid for two dollars.

AMERICAN FACE BRICK ASSOCIATION

1751 Peoples Life Building · Chicago, Illinois



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JENNINGS Hytor Return Line Vacuum Heating Pumps are widely known for the efficient, dependable service they always give. Countless users affirm this again and again.

Jennings Hytor construction is fully in keeping with this acknowledged reputation for unsurpassed service.

Design, materials and workmanship meet the highest standards. All parts are made on the limit gauge basis and are interchangeable. Inspection is rigid, - from the initial selection of raw materials right through to the final testing of the finished product. Each pump is guaranteed as to capacity, vacuum and horsepower under the conditions for which it is recommended.

A Jennings Pump is as good as human brains, up-to-date equipment, and an experienced organization can possibly make it. It is built to make good and it does.

THE NASH ENGINEERING COMPANY
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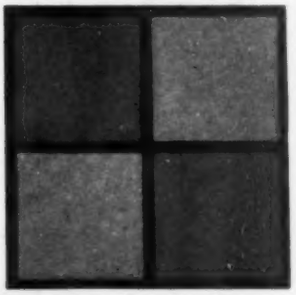
"CEMENTILE"
is made for either pitched or flat roofs and is laid directly on the roof purlins. Let our engineering department serve you at the inception of your building program. Write us for a catalog.
American Cement Tile Mfg. Co.
Oliver Building, Pittsburgh, Pa.
Plants: Wampum, Pa. Lincoln, N. J. Birmingham, Ala.
Offices: Pittsburgh New York Philadelphia Atlanta Birmingham

The present-day swing toward floors of vivid color and appropriate design

How modern linoleum meets that trend and gives you beautiful floors at moderate cost

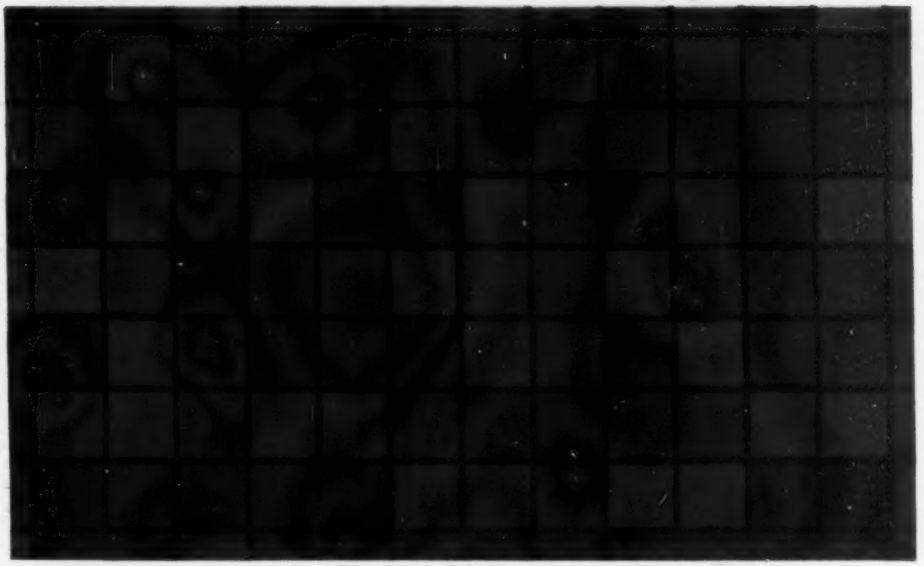
Inset Tile Inlaid No. T48



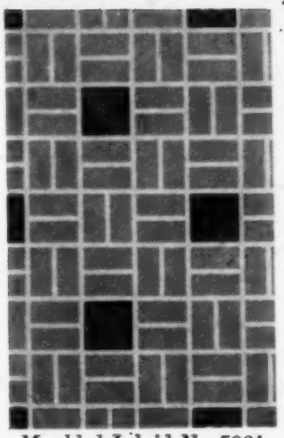
ARCHITECTS and interior decorators have found a new source of inspiration. It is the new freedom in floor design—the swing toward the floor of color and design.

Such a floor—warm, distinctive, truly expressive—forms the decorative keynote of any room. What a stimulus for modern interior design!

With this modern trend have come many new floor patterns in linoleum, created by the Armstrong expert designers. Today in Armstrong's Linoleum there are hundreds of beautiful colors and patterns to meet every decorative need. There are delicate two-toned jaspés, in gray, green, blue, and brown. There are smart block patterns in black and cream. There are interesting geometric designs, and natural marble effects. There are colorful handcraft tiles. And these are only a few!



Handcraft Tile No. 3132, one of the newer Armstrong designs



Moulded Inlaid No. 5064

A living-room in a San Francisco apartment, floored with Armstrong's Marble Inlaid Linoleum. Lionel H. Pries, Architect

Floors of Armstrong's Linoleum are beautiful floors—floors that bring out the color contrasts of the room, that emphasize harmonious furnishings. These floors are permanent floors. Properly cemented in place, over a layer of heavy deadening felt, Armstrong's Linoleum is a smooth, non-splintering, one-piece floor. Waxed and polished like any fine floor, it keeps its color and sparkle for years on end.

The smart shop, the up-to-date business or professional office, the school or library, the fastidious home—all are given floors of new and permanent beauty once Armstrong's Linoleum is installed.

Fine interiors today are being based on floors of Armstrong's Inlaid Linoleum—because these floors of color and design are beautiful, because they are permanent, because they cost so little to install.

Decorative advice free

Whenever you want suggestions regarding any interior color schemes you may be planning, just drop a line to the Armstrong Bureau of Interior Decoration. This service bureau, in charge of an experienced decorator, is always at your disposal, free of charge or obligation. Ask also for samples of the newer patterns.

Look for the CIRCLE A *trade-mark on the burlap back*

Armstrong Cork Company
Linoleum Division **Lancaster, Pa.**

Armstrong's Linoleum *for every floor in the house*

2 X 6"
2"X2" FURRING STRIPS OVER WINDOW AND DOOR OPENINGS AND IN FRONT OF ALL PILASTERS
2X2 NAILING STRIP ON STEEL ANGLE
4 WALLS ARE BLANKETED WITH BACK MORTAR
2"X2" FURRING STRIP BETWEEN PILASTERS
PLASTERING LATH
7/8 X 1½" FURRING STRIPS UNDER WINDOW SILLS

The New Economy Brick Wall

HERE is a new brick wall, suitable for bungalows, small homes, industrial housing and other light construction, that permits building with brick at the cost of frame.

The new Economy wall, developed by Wm. Carver, Architect for this Association, has the same exterior appearance as any brick surface. It is safe, strong and dry.

It is, essentially, a 4-in. wall, using 7⅓ Common Brick per square foot, with frequent pilasters giving it added stability. The space between pilasters is blanketed with back mortar.

Details of this new construction will be supplied on request.

The Common Brick Manufacturers' Association *of* America

2134 Guarantee Title Building
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A folder showing the correct method of applying metal lath will be sent free on request. Ask for "The A-B-C of Metal Lath Erection."

The Better Plastering advertisements appear in the June 13 Saturday Evening Post and July American Magazine. Be sure to see them.

Plastering is Part of the Design

THE plastered surfaces represent 80% of the interior finish of the home. They are the most important part of your design.

Make them *permanent*. Specify a METAL base that will not swell, shrink, or warp—that will hold the plastering in place to protect the timbers from fire.

Where economy is necessary suggest to your clients that they sacrifice some part of the home that can easily be added later rather than "skimp" on the plastering contract.

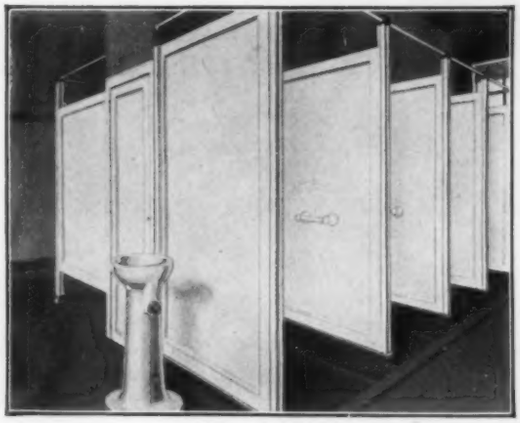
Secure bids for furnishing three coat plaster reinforced with three pound metal lath: (1) throughout the plastered parts of the building, (2) on all ceilings, (3) on the ceilings and in the corners of entry hall, living room and dining room; bath room wainscot, and for fire protection over heating plant, and on the under side of main stairway.

Submit these figures separately, pointing out the wisdom of plastering once for all times.

NATIONAL COUNCIL *for* BETTER PLASTERING
819 Madison Square Building
CHICAGO

BETTER PLASTERING

METAL LATH TO REINFORCE AND PRESERVE



Installation in Spy Run Car House, Fort Wayne, Ind.

Why Architects Prefer Sanymetal

ARCHITECTS the country over are alive to the rapid trend among their clients in favor of metal partitions for Offices and Toilets. The questions of sanitation, permanence, fire hazard, flexibility in layout—all these have but one answer—the unit section metal construction. And architects know that Sanymetal is equipped by long experience to fill their requirements quickly, smoothly, and adequately. There is a Sanymetal distributor in your neighborhood.

Sanymetal Products are: Partitions for toilets, showers, dressing rooms, urinals. Partitions for offices and factories. Metal doors, screens and wainscot. Sanymetal Gravity Roller Hinges for toilet doors. Write for latest Bulletins.

The Sanymetal Products Co.
1702 Urbana Rd. Cleveland, O.

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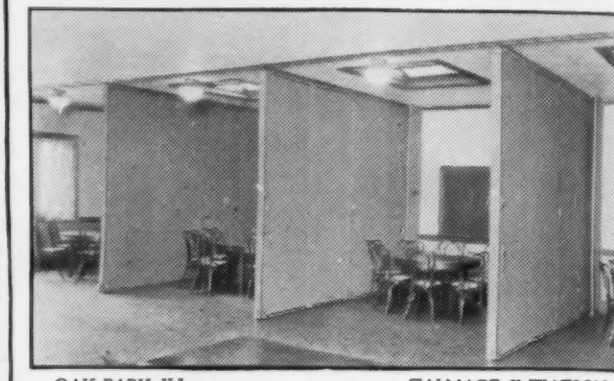
TRADE MARK U.S.REG.
Toilet and Office Partitions

BETTER FOLDING PARTITIONS



OAK PARK, ILL.
M. E. CHURCH

TALMAGE & WATSON
Architects

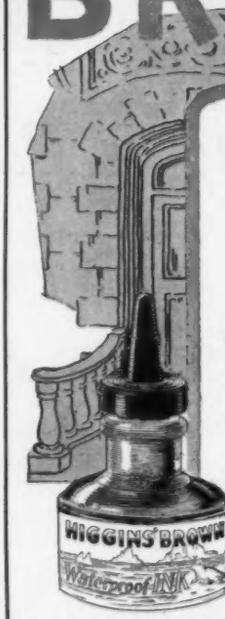
Quiet Seclusion—imperative for small groups in modern religious education—is obtained with scientific exactness by the use of

"CUR-TI-TION"
ACOUSTICAL FOLDING PARTITIONS

Write Today for Booklet

CUR-TI-TION CO. CLEVELAND, O.
1991 EAST 66th STREET

BROWN



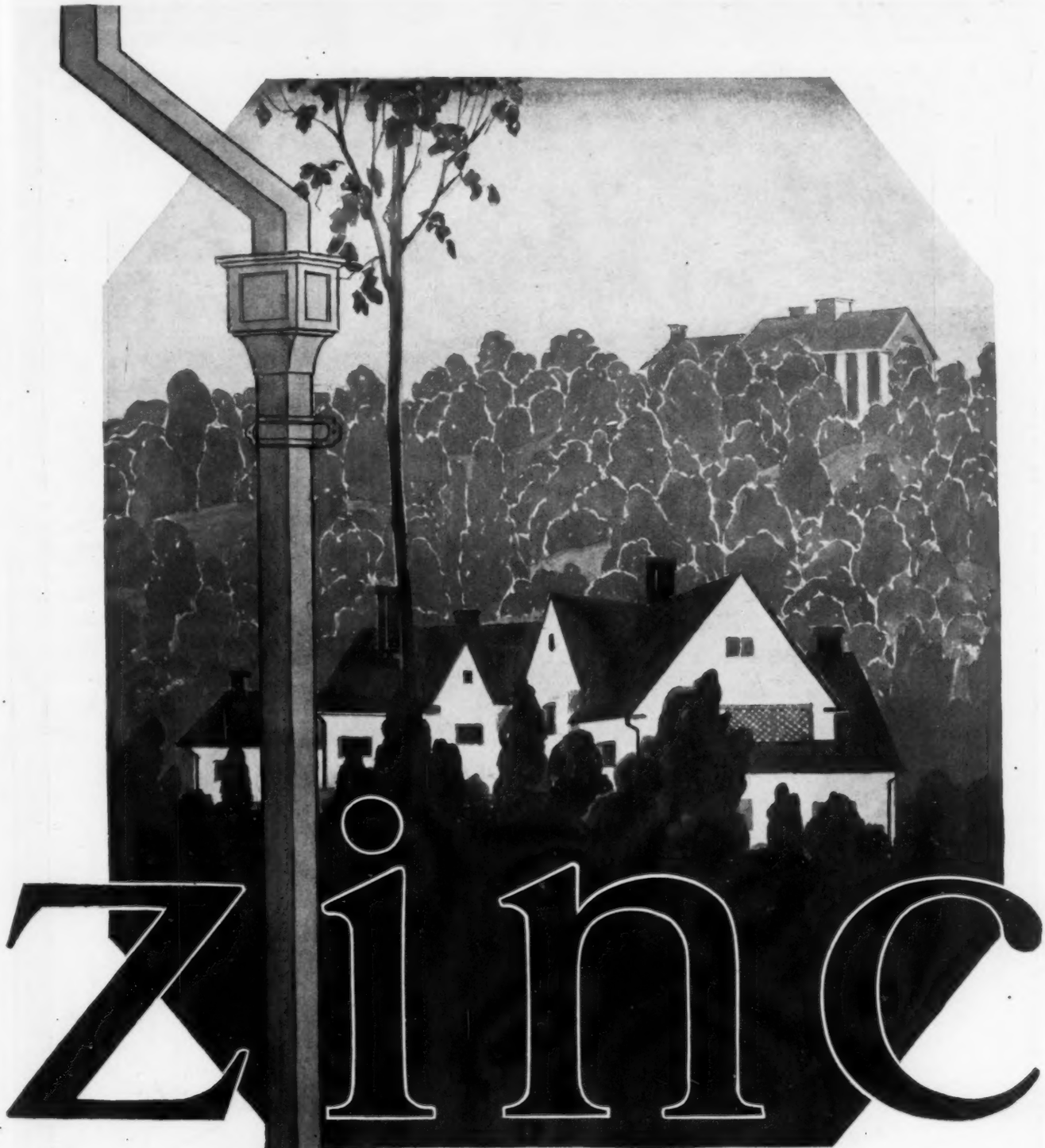
RICH in color, HIGGINS' Waterproof Brown is much favored by the architect, engineer and draughtsman for indicating brownstone, earth, etc.

For line work or thinned for lighter tinted washes, Waterproof Brown cannot be surpassed by any other medium.

Brilliant—Transparent—Permanent.

CHAS. M. HIGGINS & CO.
271 Ninth St., Brooklyn, N.Y.
Chicago *London*

HIGGINS' Drawing Ink



Zinc

New Jersey zinc

Eaves-troughs, gutters, and conductor pipes of Horse Head Zinc would be cheap at any price. Their genuine permanence, their freedom from staining, their easy adaptability to any building conditions would justify top prices.

Fortunately Horse Head Zinc installations cost but little more than those of temporary materials whose only appeal is price.

The New Jersey Zinc Company

Established 1848

Products Distributed by

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FEDERAL RESERVE BANK, ATLANTA, GA.
A. TenEyck Brown, *Architect*

Georgia Marble for Banks

GEORGIA Marble is suited to any building which, by the nature of the business it houses, must endure.

Architects recognize that marble is the ideal material for a monumental building, and that oftentimes the cost is little, if any, above less desirable materials.

THE GEORGIA MARBLE COMPANY

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CHICAGO
456 Monadnock Bldg.

MARBLE FLOOR TILE CREATES PALATIAL BEAUTY WHEN USED FOR ASHLAR WORK YET ITS COST IS MOST AMAZINGLY LITTLE!

Do you know how little?

AT first glance, it may seem a mad extravagance even to suggest Appalachian Tennessee Marble for ashlar work in an everyday project. Yet it is wholly practicable.

Floor tile dimensions (from 8x8 to 10x20; ⅜ thick) are merely a by-product with us. We sell them accordingly, and very cheaply indeed.

Thus this gorgeous marble allows superb ashlar work at floor-tile prices—plus a very small cost for honing or polishing. What a feature it would make!—perhaps in some specification you are considering now.

Will you send us your plans and specifications for cost estimate?

APPALACHIAN MARBLE COMPANY

KNOXVILLE - *Producers exclusively of Sincere Marble* TENNESSEE

THIS is an unaltered photograph of the granite study that formed the center of our exhibit at the Architectural and Allied Arts Exposition.

Except for the background, it is entirely of granite in various colors. The colors range from almost pure white through the grays to green and red.

This model, with the accompanying samples, is not only a nearly perfect portrayal of the color possibilites in granite construction, but the most complete exposition of building granite ever gathered together.

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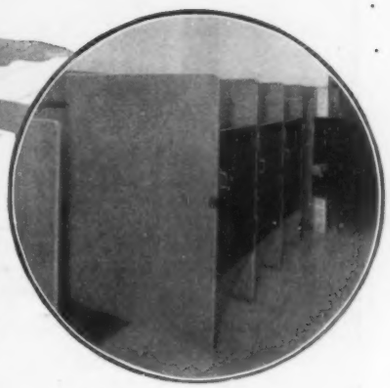

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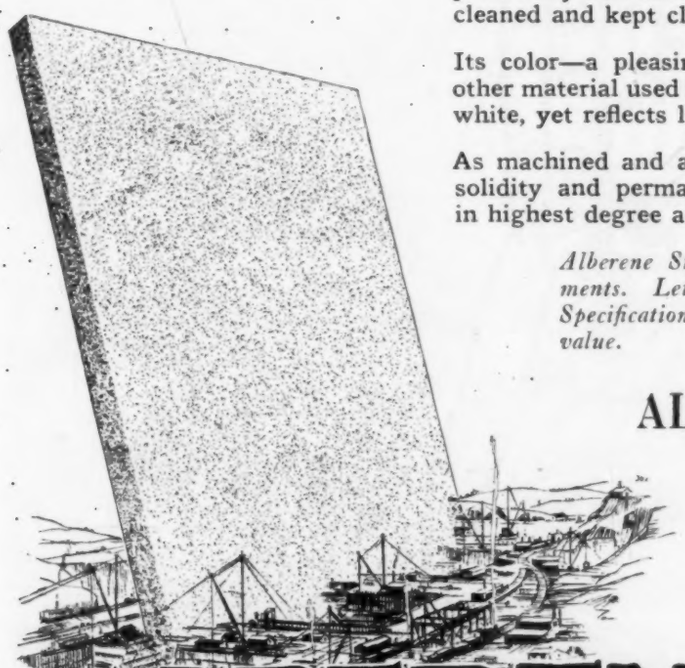

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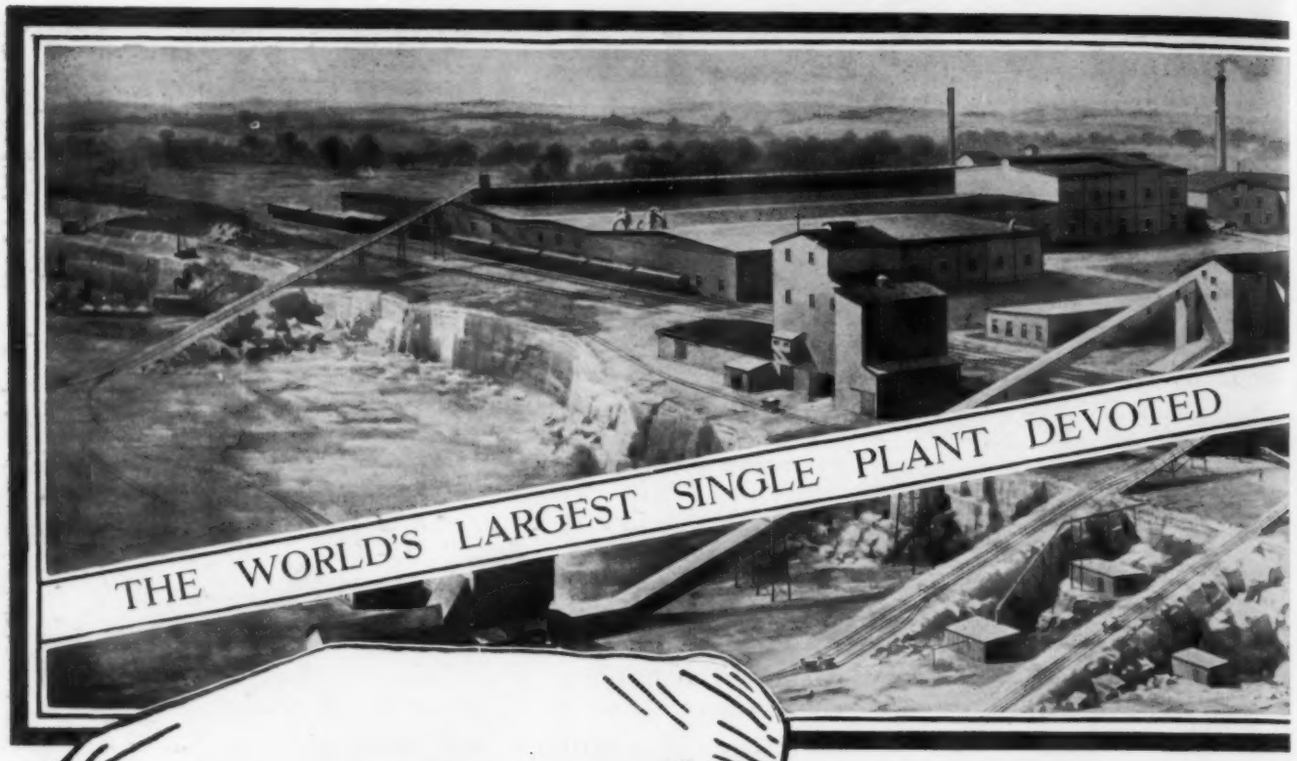

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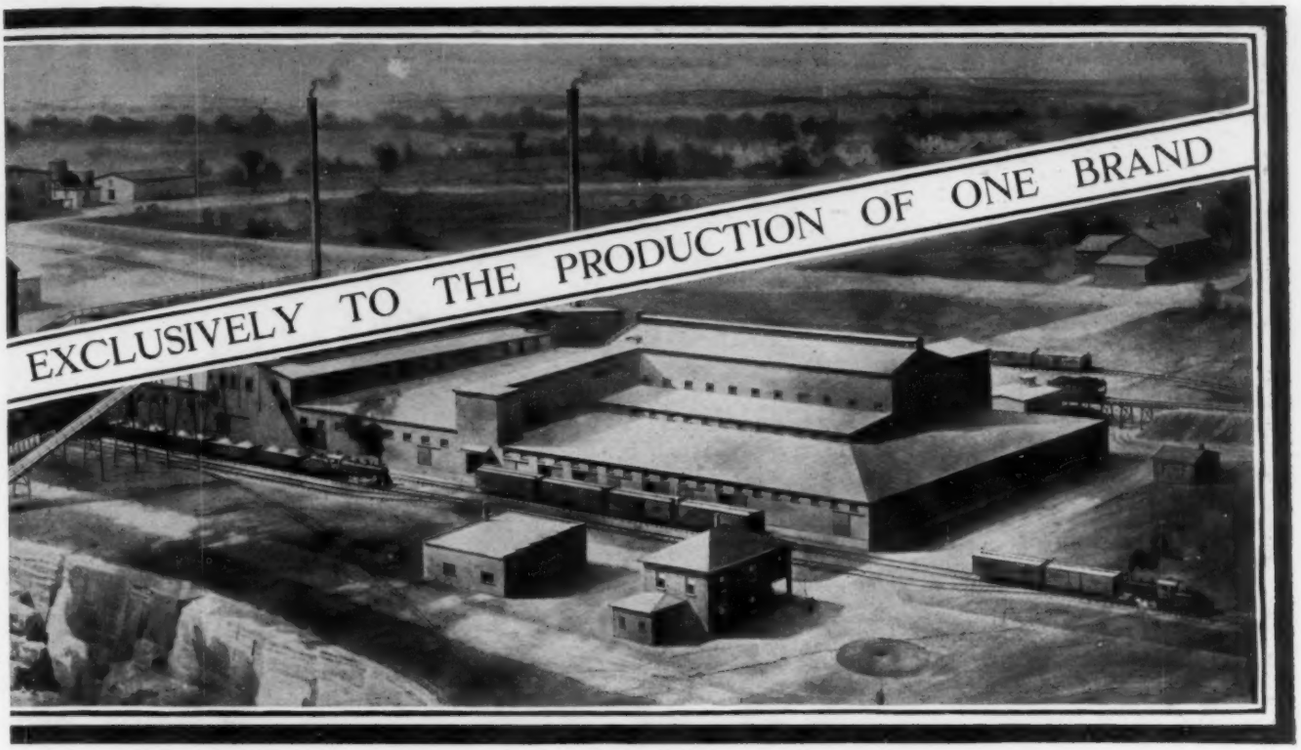

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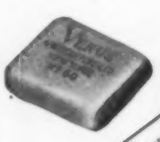

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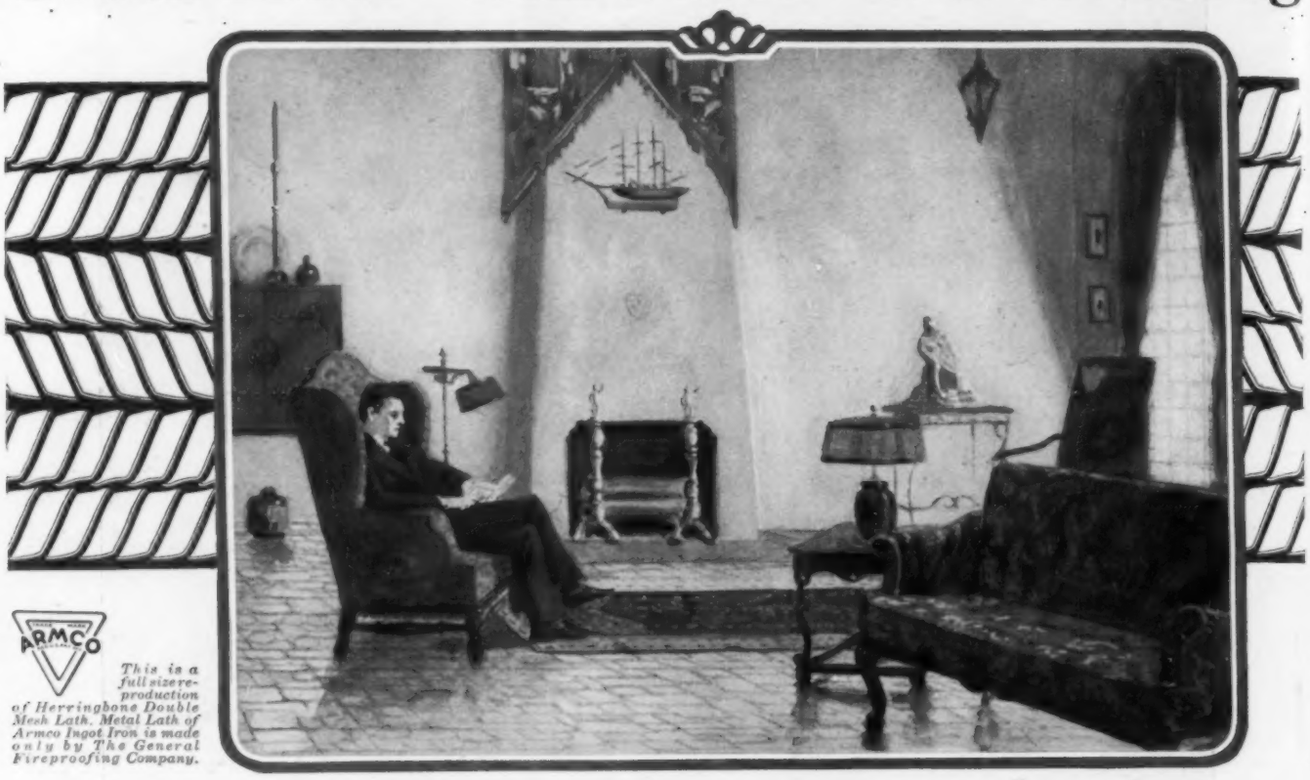

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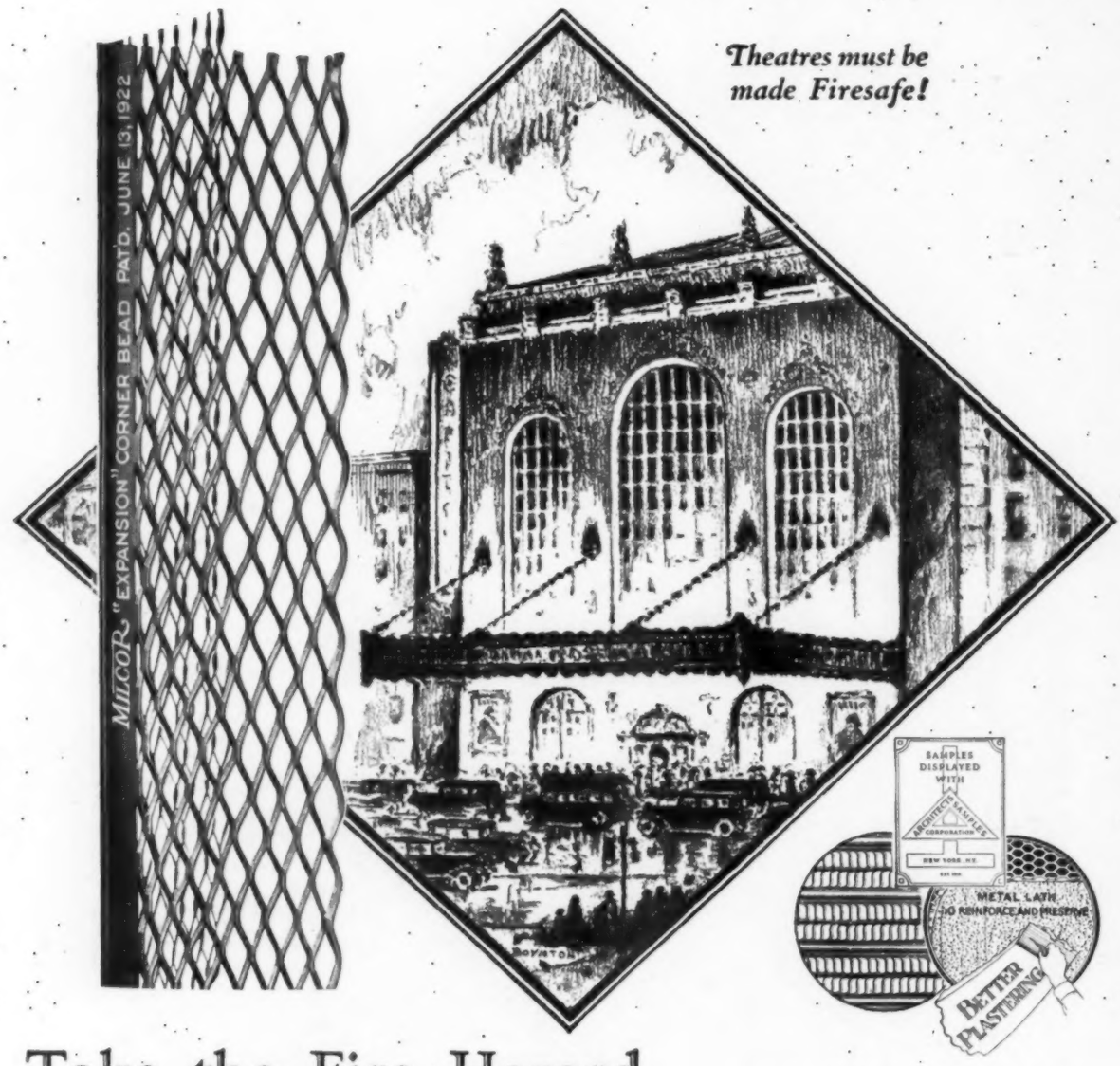
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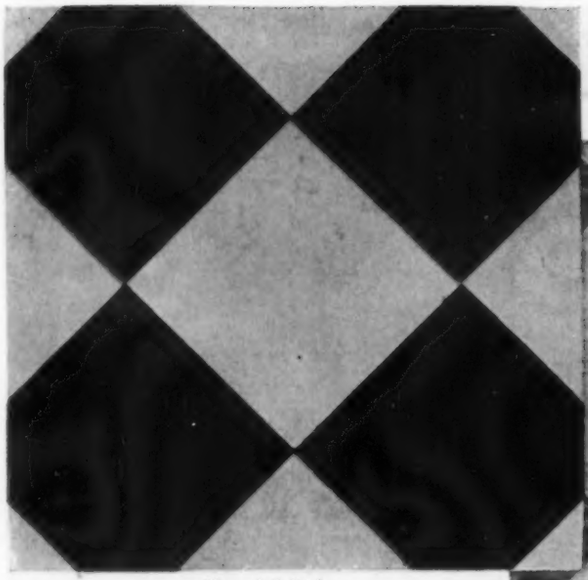
Other designs of Nairn Inlaids are shown on the next page.

{*See other page*}

NAIRN *INLAID* LINOLEUM



Newark Inlaid
Design No. 1047/1

Belflor Inlaid
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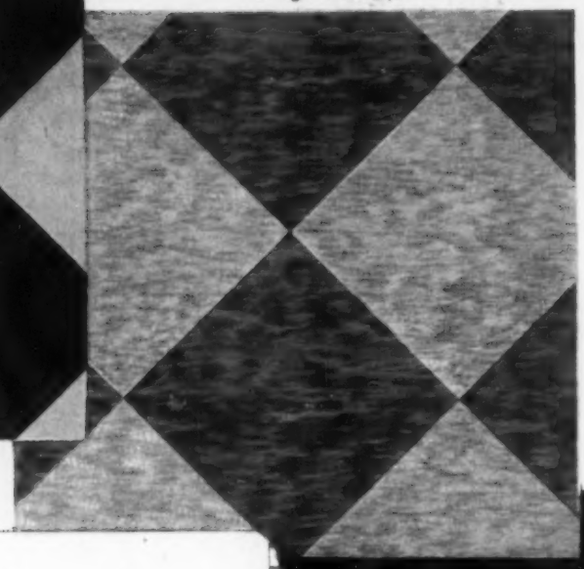

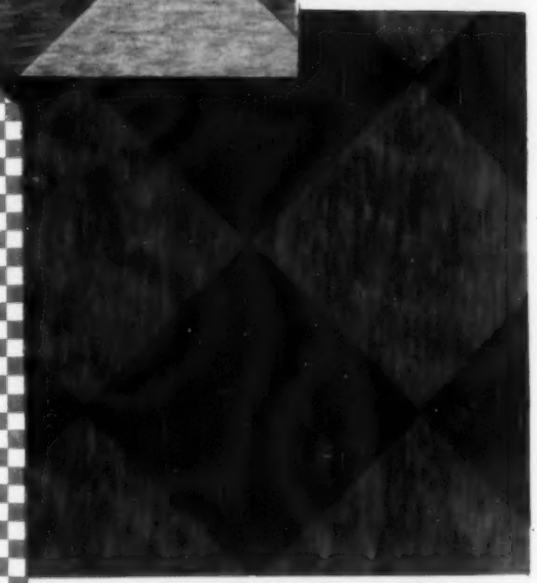

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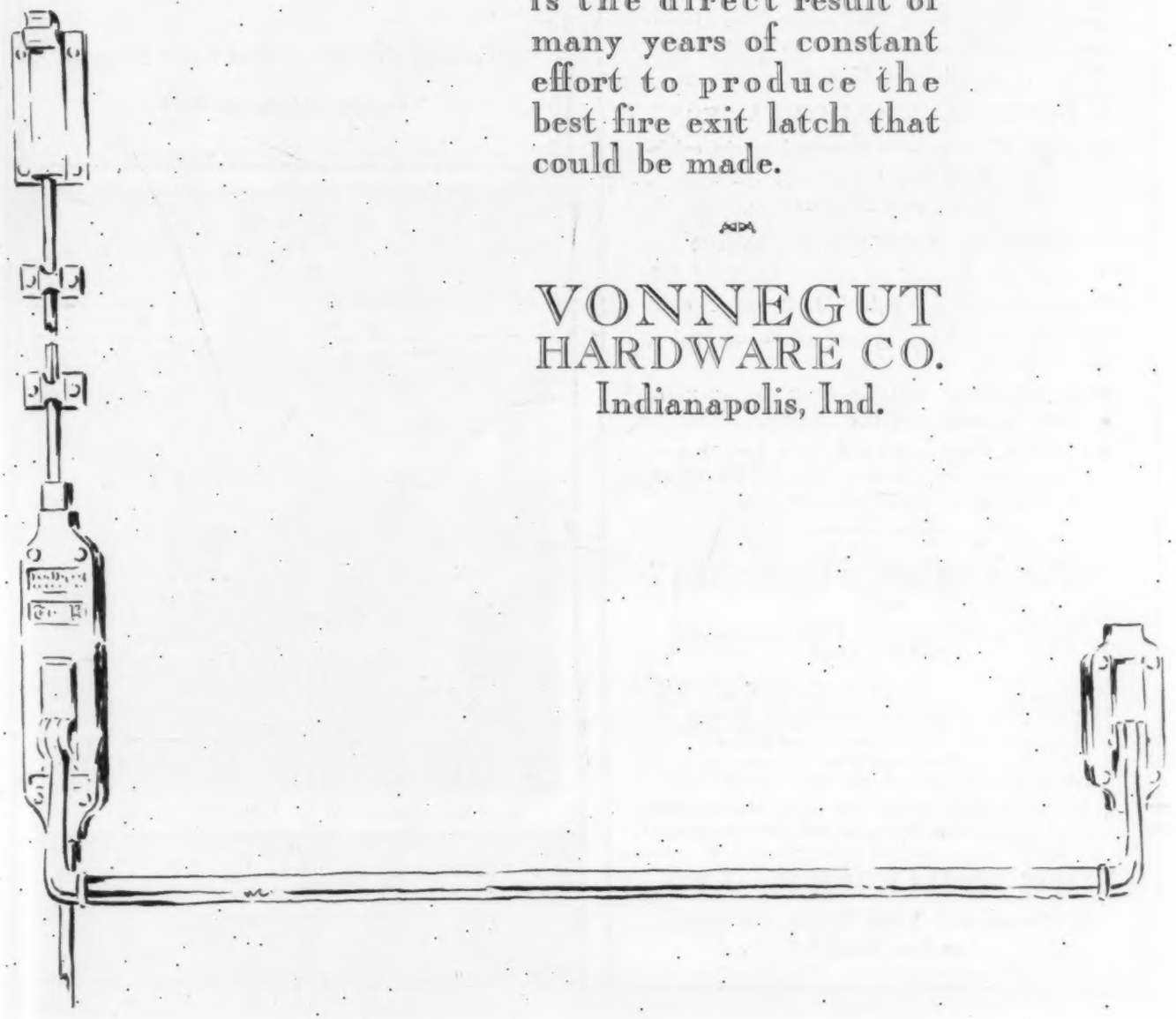

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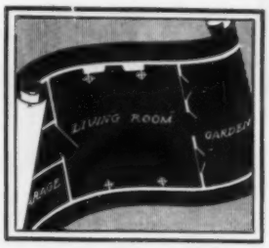

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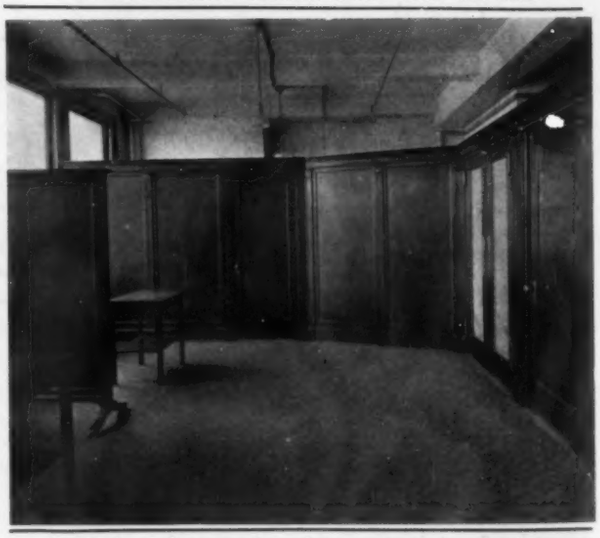

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PARKER MORSE HOOPER, Editor

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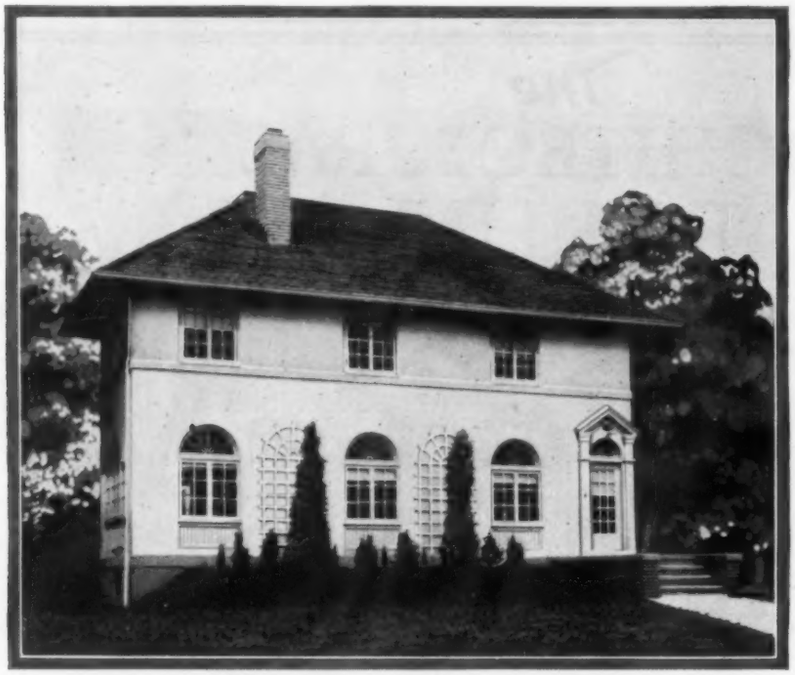

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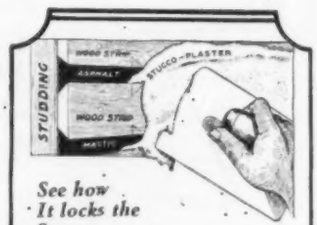

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At left is the Harris Theatre in Chicago, exquisitely finished in American Walnut throughout. Below a box in the Selwyn Theatre handsomely carved in walnut and ornamented with heavy gold relief work.

Architects: C. Howard Crane and Kenneth Franzheim. Woodwork by Matthews Brothers, Milwaukee. Photos by Fowler.

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Two of the finest playhouses built in recent years are Chicago's twin theatres, the Selwyn and the Harris. These are both models of comfort and good taste. And in both cases their interior decorations are of walnut used with lavish hand.

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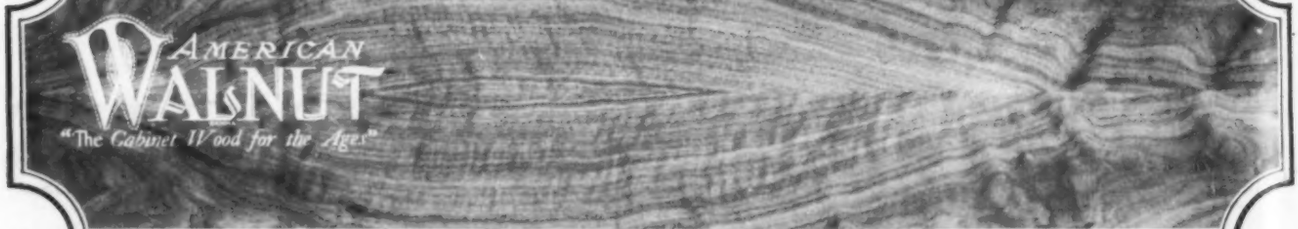
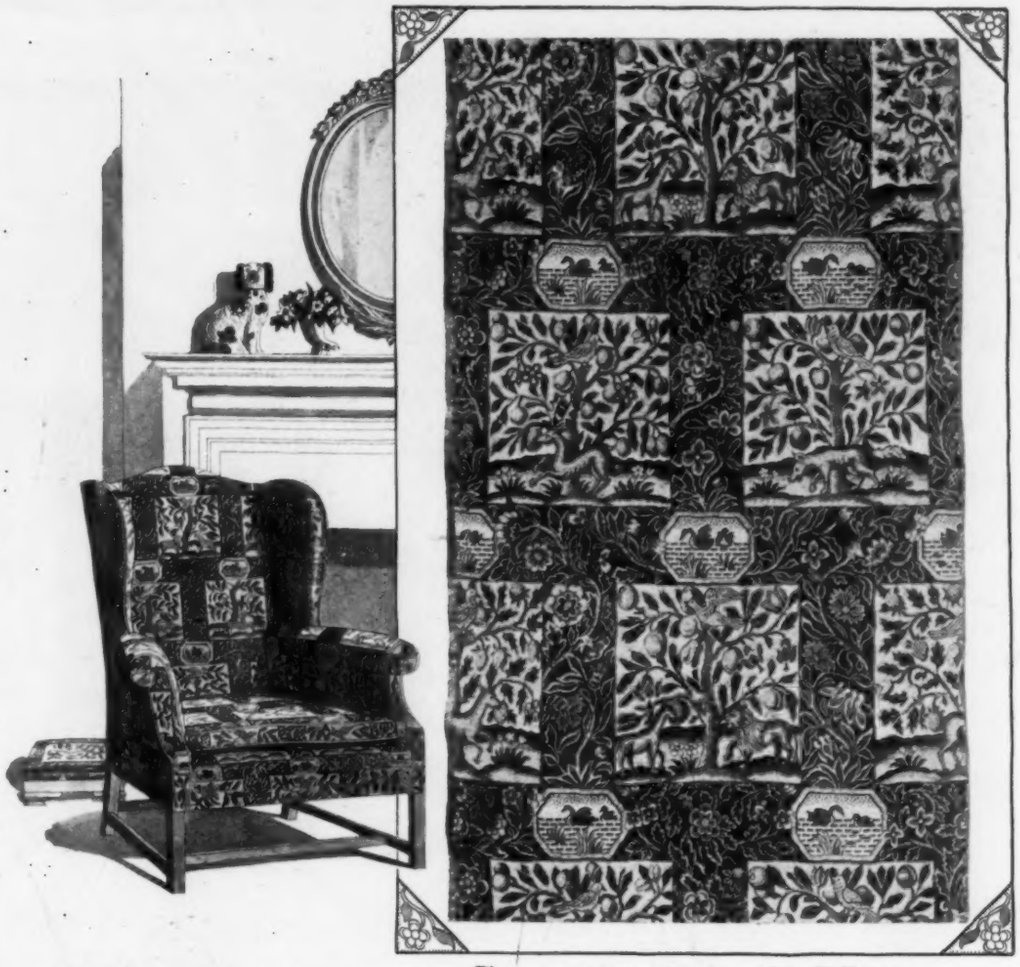


Beautifully matched panel of well marked walnut



TAPESTRY *with the naïve charm of the XIV Century*

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The trio of little incidents is completed by a prowling wolf on his way to some grim tryst with a shepherd's flock, while the little water-fowl in medallions link together the larger squares and their animal folk tales.

The Gothic mille fleurs ground acts as a subdued running accompaniment to this main theme, and as the animals and birds are woven in darker tones against a cream ground, the whole tapestry is given an arresting three-dimensional effect. Because of its dual design, the colors of this tapestry are in low key—not to distract the interest from the design.

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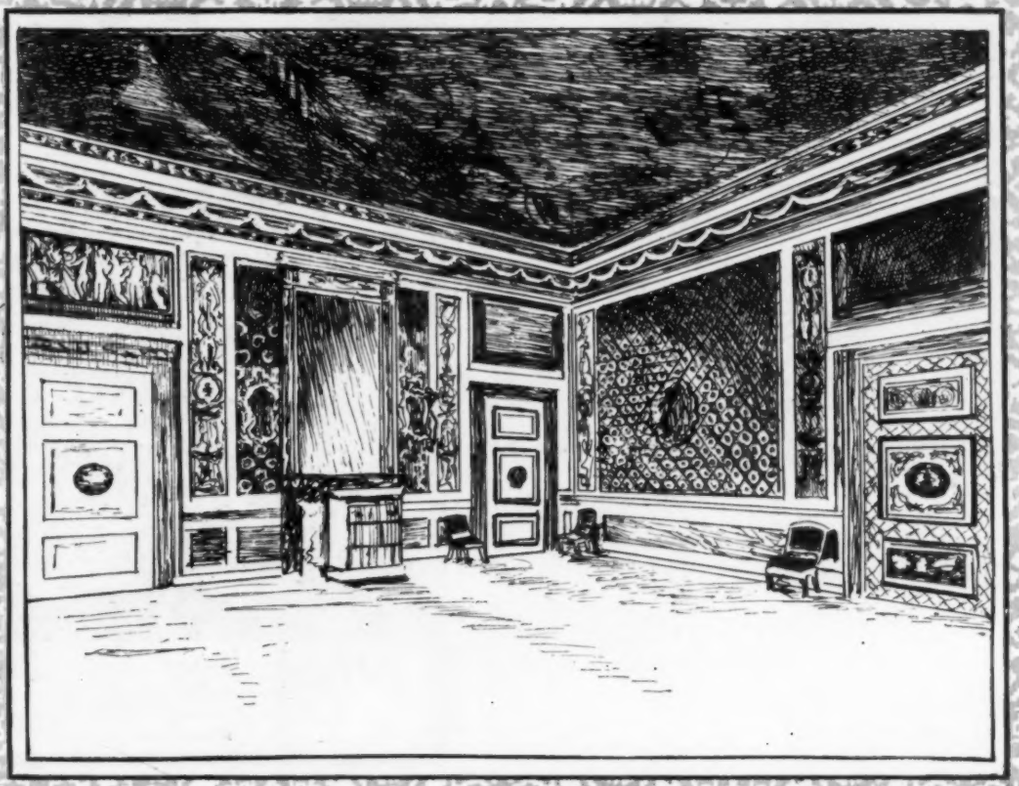

THE treatment of white or cream or gray-green walls divided into panels in the popular manner of today is one of the great problems of modern decorators. That the undecorated panel is inartistic is the unanimous verdict of history.

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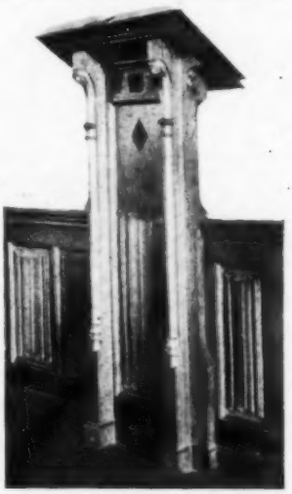

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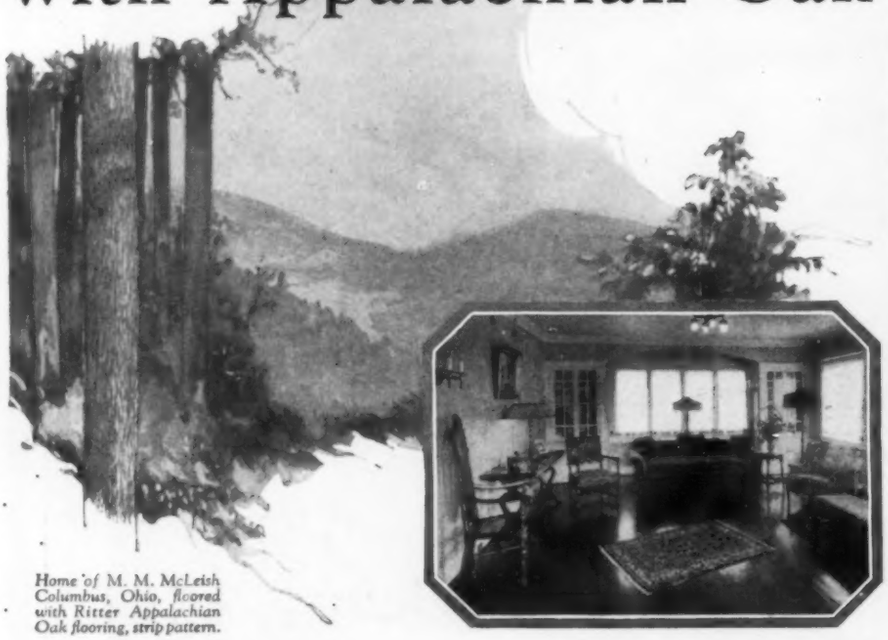

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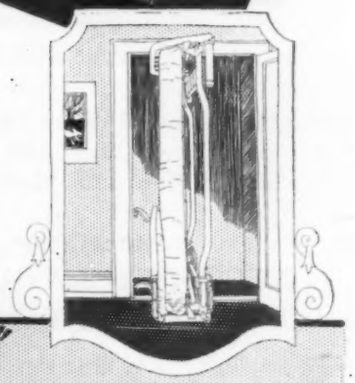

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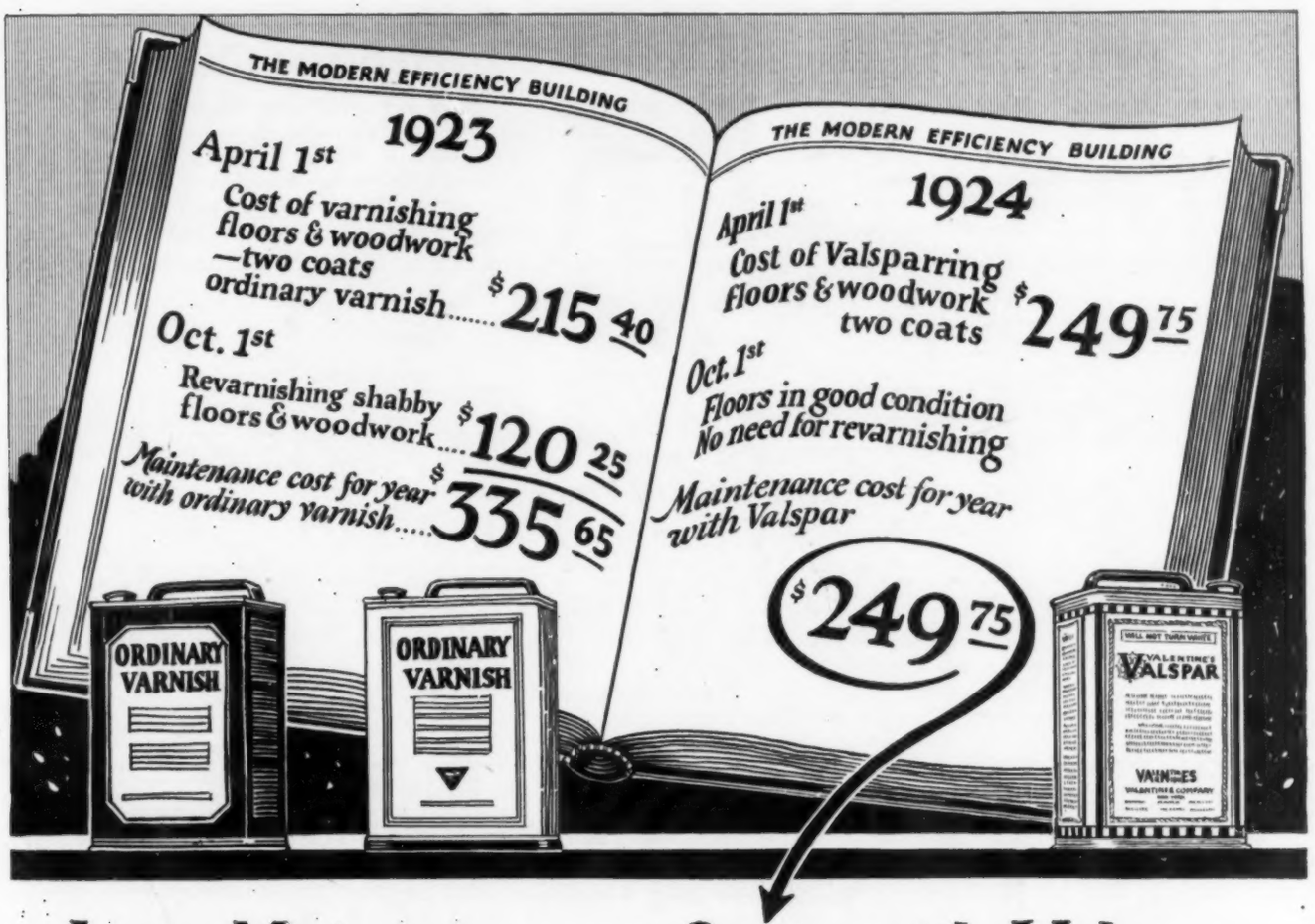
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Cost of Valsparring floors & woodwork two coats $249 75
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Floors in good condition No need for revarnishing
Maintenance cost for year with Valspar
$249 75
ORDINARY VARNISH
ORDINARY VARNISH
VALENTINE'S VALSPAR

Low Maintenance Cost-with Valspar

OF course the figures shown above are not taken from the books of any one building, but they do represent the combined experiences of many.

Although Valspar's first cost may be slightly greater than that of ordinary varnishes, the *labor cost* being the same, Valspar more than makes up for this in greater durability and wear, and in the satisfaction that comes from having floors and woodwork always sanitary and easy to clean.

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Then, too, there's the saving in time and trouble effected by using Valspar. This feature alone is worth the extra cost, particularly in schools, hospitals and other institutions where revarnishing means no end of inconvenience and often extra expense. For Valspar not only has far greater durability but it also dries quickly—ready for the second coat in 24 hours and for hard service in 36.

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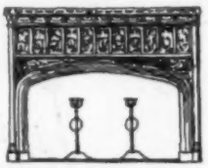
Tudor and Elizabethan Period Characteristics Chart

EDWARD (1547-1553), Mary (1553-1558), and Elizabeth (1558-1603) were the later sovereigns of the Tudor line, and during the long period of the final reign the renaissance movement gained full expression. Rise to power of the English nobility was a powerful force in architecture and decoration.



NOT until the reign of Henry VIII (1509-1547) did the influence of the Italian renaissance penetrate to England, to be followed shortly by migration to England of skilled craftsmen of every kind. England accepted the new movement with enthusiasm, and conditions were favorable to building.

Room Background

WALLS	CEILINGS	COLOR AND FINISH	FLOORS	DECORATION
SMALL oak panels, with wide rails to ceiling or carved cornice above which is plaster frieze, and in open roofed halls half-timber patterns. Door frames and pilasters carved	FLAT beamed wood and plaster. Open timbered roofs in large halls. Beams chamfered, carved and frequently colored. Plaster flat, covered with geometrical rib or raised natural patterns	WOODWORK light gray-brown with paste filler showing in grain and finished with thin, dull varnish, or dark brown, either in dull varnish or heavy coat glossed	WIDE oak boards, floor tile, modern rubber and linoleum in patterns of tile offer possibilities. Floors should make no pretense at ornamentation	LINEN-FOLD patterns in panels. Pierced strap-work on friezes and pilasters. Human figures carved for supports on over-mantels. Ornament based on renaissance influenced by Gothic

Architectural Features

MANTELS	BOOKSHELVES	SCREENS	WINDOWS	DOORS
FIRE opening large, framed in stone or cement with Tudor arch. Overmantel elaborately carved wood or stone, frequently colored and gilded	RECESSED in wall with strap-work ornamented pilasters forming divisions. Should extend to top of paneling and have cupboards below, doors matching paneling	IN large halls and at entrance doors wood screens paneled in linen-fold pattern and topped with cresting of scrolls and armorial bearings are used to form vestibules	LARGE in area and made up of groups of small casements with stone mullions in one or more tiers. Small lozenge-shape panes leaded, often with stained glass insets	FRAMED with carved pilaster-in-strapwork pattern and surmounted with carved panels, often of armorial bearings. Doors paneled in small rectangles similar to walls

Furniture

TABLES	CHAIRS	SETTEES	WALL PIECES	WOOD AND FINISH
LARGE pieces have carved bulbous legs connected with stretchers. Smaller tables may be round topped with three or four turned legs connected with stretchers. Gouge work for decoration	ORIGINAL rooms largely limited to benches and stools similar in design to tables. Chairs of Stuart type, also Italian renaissance should be used to fill deficiency	ALL wood with paneled backs enriched with gouge work; turned legs, arms and plain stretchers. Later Cromwell types also suitable, with twisted legs and leather backs and seats	PRINCIPAL piece is the court cupboard with open shelf above. A buffet is similar, but with a half-hexagonal cupboard in the upper space, the lower having only a shelf	Oak with a hard and lustrous surface. Color shou'd be a dark and rich brown, nearly black in crevices of mouldings and background of carving. Surface coating should be thin transparent varnish

Upholstery and Hangings

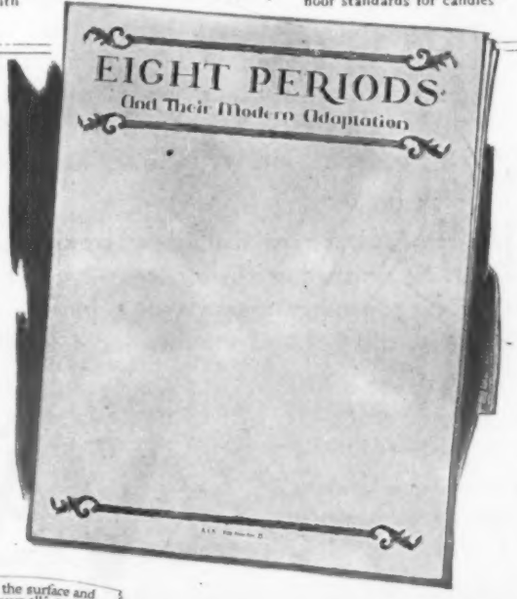
WALL HANGINGS	WINDOW HANGINGS	FLOOR COVERINGS	UPHOLSTERY	MISCELLANEOUS
TAPESTRY in bright colors; velvet with applique designs and large pieces of the many-colored zig-zag needlework are used in contrast to dark paneling	CASEMENT or similar coarse cloth against glass. Over-curtains of Italian full color damasks in bold patterns or printed linens in large patterns and bright colors	LITTLE precedent, but oriental rugs, heavy pile plain color rugs and woven rush rugs are in keeping	NOT coeval with period. Velvet with gilt fringe, needlework, tapestry and stamped leather secured with brass tacks may be used with propriety	ARMOR, antlers, heads and trophies of the chase are used for wall decorations

Fittings and Accessories

LIGHTING FIXTURES	HARDWARE	METAL OBJECTS	PICTURES	LAMPS AND POTTERY
WROUGHT iron chandeliers fitted with candle bulbs, and wall brackets similarly fitted. Dutch type in bronze or brass also suitable	WROUGHT iron strap and decorated hinges and latches	TALL wrought iron andirons, pewter bowls, tankards and platters; pieces of brass and copper suitable for ornaments. Brass-faced wall clocks with suspended weights	PAINTED portraits framed in gilt mouldings, and early prints of large size, simply enclosed in dark, wide frames	WROUGHT iron, plain or polychromed lamp standards with parchment shades. Small brass candlesticks and iron floor standards for candles

The Beginning —of the Renaissance

The beginning of the Renaissance in England and the development of oak in paneling and furniture are strikingly outlined in this Tudor and Elizabethan Period Characteristics Chart shown above—one of the many period charts included in the book, *"Eight Periods—and their modern adaptation"*—which many architects have already commented on so favorably. We shall be glad to send this handy reference book to other members of the profession who are interested. Just a short note is all that is necessary.



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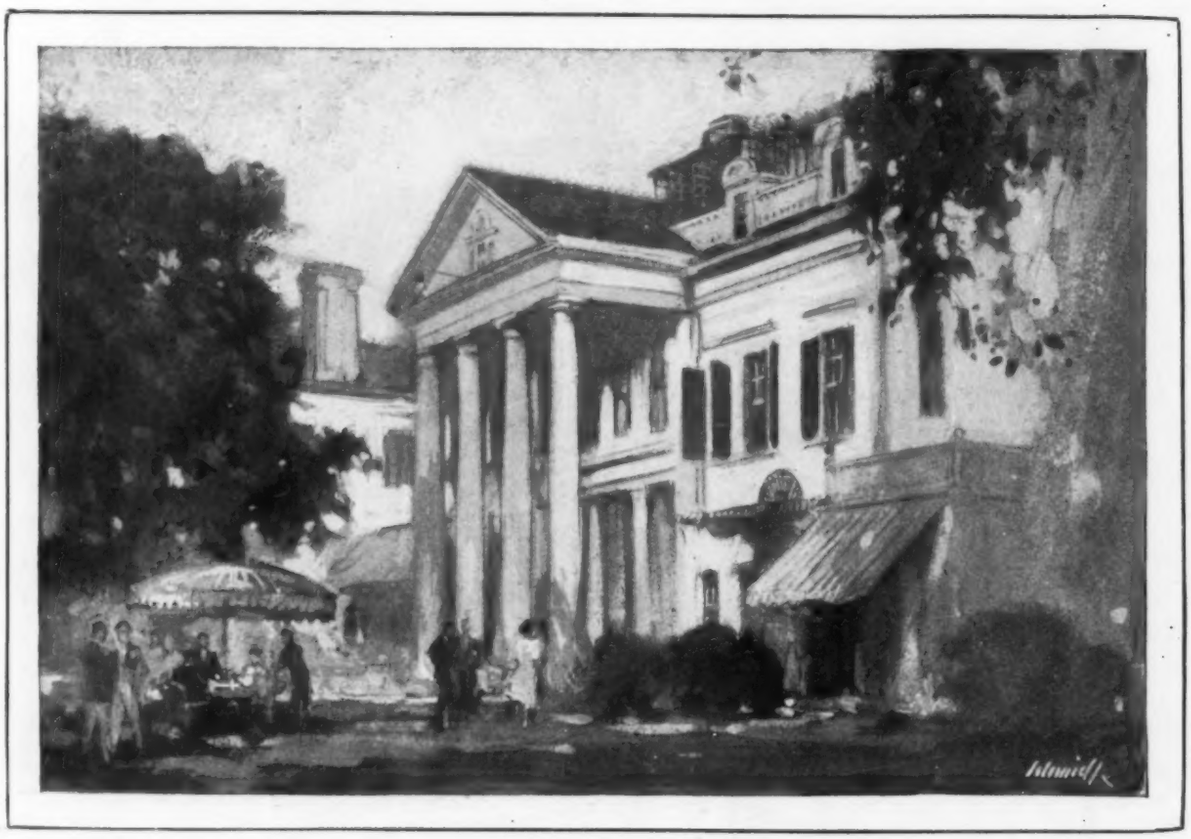

Beautifying America's finest homes—the estate of Frank A. Vanderlip

FOR the finest American homes, tall gleaming mansions that rival the beauty of ancient chateau or palazzo—as well as for the average city or country dwelling—paint that both preserves and beautifies is an economic necessity. For this lovely estate of Frank A. Vanderlip at Scarborough on the Hudson, the master painter, A. E. Coutant, chose Eagle White Lead in Oil—because a film of paint made with Eagle White Lead offers the tough elastic resistance of lead to the weathering action of rain, sleet or sun, and yet combines with this protection the quality of long-continued white beauty.

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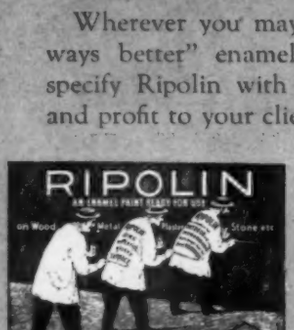

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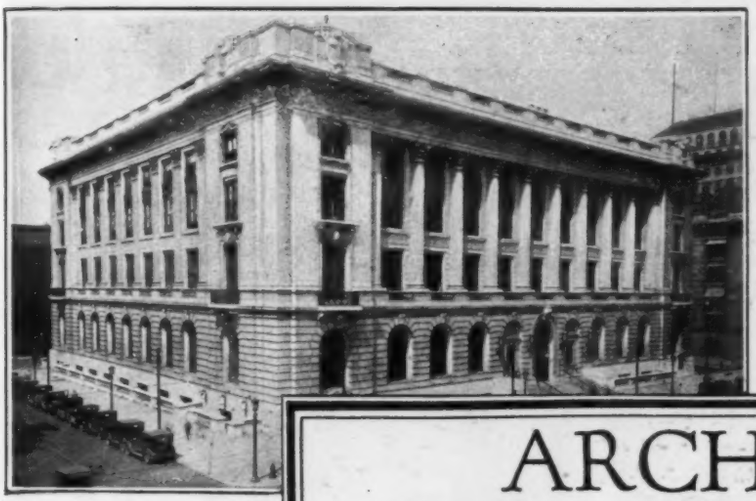

NEW *Cleveland Public Library Building, Sherwin-Williams Old Dutch Enamel and Zilo used on the walls. Architects: Walker & Weeks, Cleveland.*

ARCHITECTS' PAINTING GUIDE

FOR PAINTING · VARNISHING · STAINING AND ENAMELING

IMPORTANT: Each of the products specified below bears our name and trade mark

SURFACE	TO PAINT *Use product named below*	TO ENAMEL *Use product named below*	TO STAIN *Use product named below*	TO VARNISH *Use product named below*
BRICK WALLS (ext).....	S-W Concrete Wall Finish	Old Dutch Enamel, Gloss		
CONCRETE WALLS....	S-W Concrete Wall Finish	Old Dutch Enamel, Gloss		
CEMENT FLOORS.....	S-W Concrete Floor Paint	S-W Concrete Floor Paint		
EXTERIOR WOOD SURFACES	SWP (Sherwin-Williams Prepared Paint)	Old Dutch Enamel, Gloss	S-W Preservative Shingle Stain S-W Acid or Oil Stain	Rexpar Varnish
EXTERIOR METAL SURFACES.....	Kromik Structural Steel Primer Metalastic (for finishing coats)	Old Dutch Enamel, Gloss		
FACTORY WALLS (Interior)	S-W Eg-Shel Mill White S-W Fume Resisting White	Old Dutch Enamel or Enameloid		
FLOORS (Interior Wood)..	S-W Inside Floor Paint (the enamel-like finish)	S-W Inside Floor Paint (the enamel-like finish)	Oil Stain or Floorlac Varnish Stain	Mar-Not Floor Varnish
GALVANIZED IRON SURFACES	S-W Galvanized Iron Primer (Finish with any Paint)	S W Galvanized Iron Primer and Old Dutch Enamel		
INTERIOR WALLS AND CEILINGS	Flat-Tone Wall Finish S-W Eg-Shel Mill White	Old Dutch Enamel or Enameloid		
INTERIOR WOOD TRIM.....	SWP (Sherwin-Williams Prepared Paint)	Old Dutch Enamel or Enameloid	S-W Acid Stain S-W Handcraft Stain S-W Oil Stain	Scar-Not Varnish Velvet Finish Varnish (for imitation rubbed effect)
PORCH FLOORS AND DECKS	S-W Porch and Deck Paint			
RADIATORS AND PIPES.....	Flat-Tone Wall Finish or S-W Gold Paint S-W Aluminum Paint	For White—S-W Snow White Enamel For colors—Enameloid		
ROOFS—Metal	SWP or Metalastic (if Galvanized, prime with S-W Galvanized Iron Primer)			
ROOFS—Wood Shingle...	SWP		S-W Preservative Shingle Stain	
STACKS AND HOT SURFACES	Salamander Smoke-Stack Black			
STRUCTURAL STEEL..	Kromik Structural Steel Primer Metalastic (for finishing coats)			
TO DAMP-PROOF FOUNDATIONS....	S-W Antydamp			
TO DAMP-PROOF INTERIOR WALLS ABOVE GRADE	S-W Plaster Bond			
WOOD PRESERVATIVE			S-W Carbolic-ol	

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THE ARCHITECTURAL FORUM 383 Madison Avenue

DISTINCTIVE WALL EFFECTS

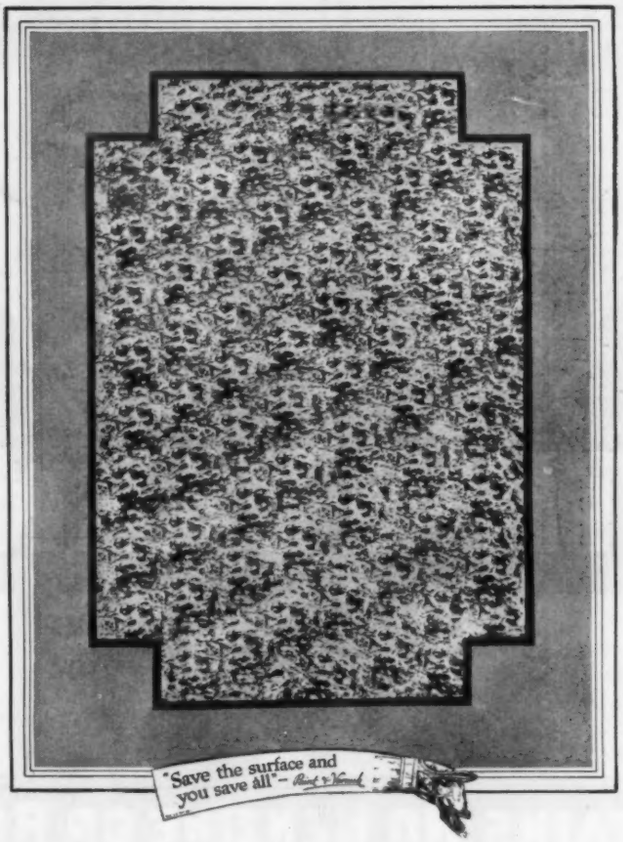
The Sponge-Mottled finish

The second article of a series showing how modern wall finishes are obtained with Dutch Boy white-lead and Dutch Boy flatting oil.

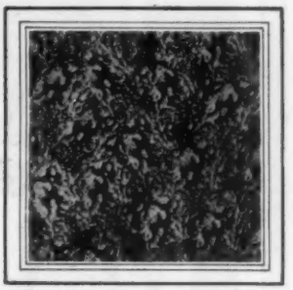
BY M. REA PAUL, CONSULTING COLORIST

1. An ordinary sponge, cut with a flat surface, produces the design of the mottled finish. One of the interesting effects possible is shown in the large panel to the right.

2. After a light undercoat is applied and allowed to dry, a little of the darker finish is poured on a board or other flat surface, into which the flat side of the sponge is pressed.



3. Then the flat side of the sponge is tamped against the wall, leaving an individual design where the high parts of the sponge come in contact with the surface.



4. This striking effect can be secured by applying a light color as a finishing coat, over a ground of a darker color. Write us if you would like samples of the mottled effect.

THE Department of Decoration of National Lead Company offers its help to architects in solving decorative problems. At no cost to you, color specialists will help you carry out the decorative treatments you have in mind. They will help select the schemes of treatment, submit for your approval color suggestions and color renderings when necessary, and assist in the writing of your specifications.

We shall be glad to send you samples typical of the wide range of effects that can be secured with the sponge-mottled finish. Just write our nearest branch, addressing your letter for the attention of the Department of Decoration.

Next month, the silk effect. The next article of this series will describe the silk effect—another of the many interesting treatments that can be secured with Dutch Boy white-lead and Dutch Boy flatting oil.

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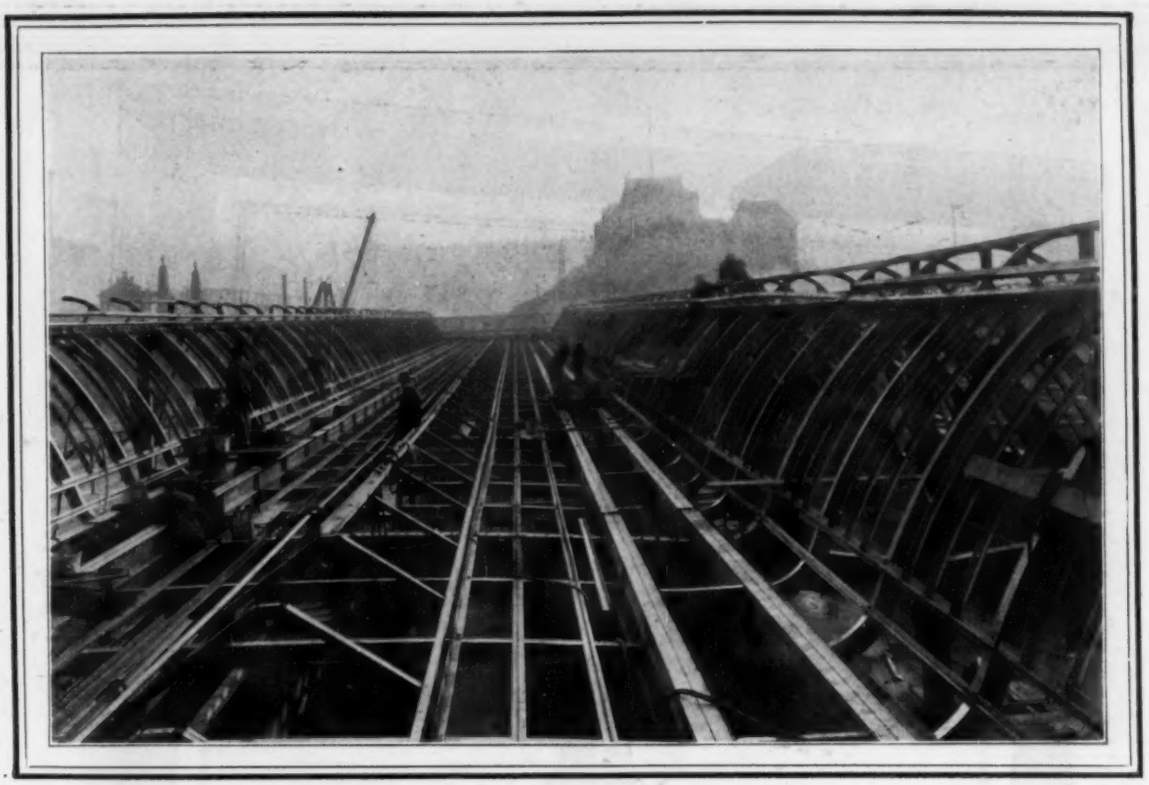

Metal-proofing Chicago's Union Station with Sublimed Blue Lead

THIS newest of America's fine railway stations is nearing completion in Chicago. Its architects—Graham, Anderson, Probst and White—and its builders, John Griffiths and Son Company, are erecting a great industrial monument. And it is significant that for the shop coat of the train sheds, shown above—the paint film that must stand the hardest metal-protecting test in these sheds where fumes and gases are most severe—M. B. Suydam of Pittsburgh furnished a rust-inhibitive paint made with Eagle Sublimed Blue Lead.

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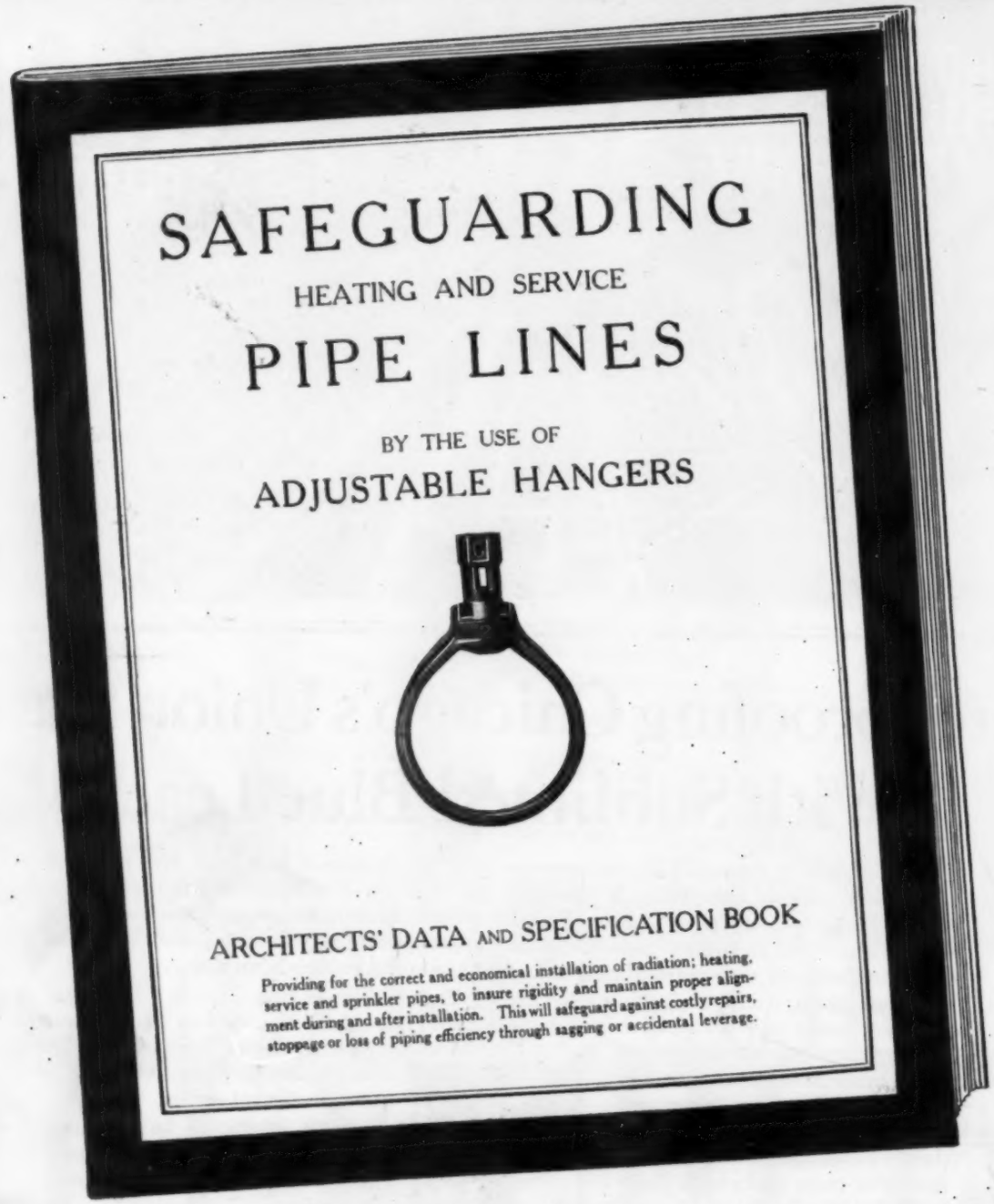
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To insure their rigidity and maintain proper alignment during and after installation—

To safeguard against costly repairs, stoppage or loss of piping efficiency through sagging or accidental leverage.

This comprehensive reference book has been edited and published for Grinnell Company, Inc., by the Service Staff of The Architectural Forum and will be furnished free on request to any architect or engineer. On the opposite page is a brief outline of its contents.

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Do You Know All About These Subjects?

Here is a random selection of some of the problems treated in detail by "Safeguarding Heating and Service Pipe Lines." On how many of them are you supplied with complete data?

	Page
Attaching Pipe Lines to Hollow-Tile Floor-Slabs	23
Suspended Ceilings	20
Attaching Pipe Lines to Concrete Beams	27
Supporting Heating Circulation Systems on Walls	33
Correct Installation of Radiators	7
Attaching Pipe Lines to Roofs (Flat or Pitched)	24

Specimen Page

Furnishing Materials from Engineering Specifications a Specialty
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HARTMANN-SANDERS

Colonial *Entrances*

THEY CANNOT COME APART

75

Porch of residence of Mattison B. Jones, Glendale, Cal. Photo by Mott Studios, Los Angeles; Designer and builder, Lucius A. Phillips, Los Angeles.

This illustration appeared in an advertisement of the California White and Sugar Pine Association in a recent issue of THE ARCHITECTURAL FORUM. Through an error in preparing the advertisement, the name of Mr. Phillips, the architect, did not appear, but in its place there was named a firm of Los Angeles architects who had nothing to do with the designing or building of the residence. Mr. Phillips is entitled to full credit for his excellent work in designing and building this residence.

English China Closet C-704. Ask your nearby Curtis dealer to show you this and other Curtis China Closets.

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